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# Meeting Increasing Traffic

An aerial photograph of a large railway yard. Numerous tracks curve and cross each other, creating a complex pattern. A tall signal tower stands on the left side of the image. The scene is captured in black and white, showing the intricate layout of the rail infrastructure.

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# Government "Works" Loans To Railways

The allotment last week by the government's Public Works Administration of \$135,000,000 to be loaned to the railways is probably the most important economically sound action that has been taken for the use of government money to promote business recovery. Of the amount mentioned, \$51,000,000 has been made available to aid railways throughout the country to purchase 1,000,000 tons of steel rail and 400,000 tons of track fastenings and plates, and \$84,000,000 is to be used by the Pennsylvania Railroad for various purposes, including pushing forward its electrification from New York to Washington and the construction of 7,000 freight cars.

Reference was made in these columns last week to the effects on business and employment that will be produced by the purchase and laying of the rail. The expenditures to be made by the Pennsylvania with the money borrowed by it will not only give direct employment to 18,000 men, but will involve purchases from at least 60 companies and stimulate business and employment in 35 states.

It is significant that the Pennsylvania, which has repaid all its loans from the Reconstruction Finance Corporation, has been the first railroad system to accept large loans from the Public Works Administration. In one sense the Pennsylvania did not need the money. In another and more important sense it did need it. Like most other railways, it could have continued to render good and adequate service for some time without it. It could better afford to accept it on the terms on which it was offered, however, and begin spending it immediately than to delay making the improvements in its facilities and effecting the economies that the early expenditure of the money would make practicable.

### "Easy Money Grant"—a Misrepresentation

Nothing could better illustrate the confusion of economic thinking, or the lack of it, shown in many quarters than the fact that these loans to the railways already have been described as an "easy money grant" in one newspaper published in a community which thus far has been unable to get money from the government for certain public works. In the interest of understanding and fairness it cannot be too strongly emphasized that the railroads have not sought these or other loans from the Public Works Administration. The rail-

roads now owe the government about \$330,000,000 which was loaned to them through the Reconstruction Finance Corporation. Developments resulting from these loans made them strongly indisposed to accept any more. These developments included a demagogic outcry that the government was taking care of big corporations and neglecting the common man. As a matter of fact, the loans made to the railroads by the Reconstruction Finance Corporation were intended to prevent losses by life insurance companies and savings banks owning large amounts of railroad securities—losses which would have been suffered principally by the common man. The public works act passed last June contained a provision for "works" loans to the railways, but no railroad came forward and asked for them. The Roosevelt administration wanted them to take the money and spend it expressly to increase employment and help promote economic recovery, and the initiative in opening negotiations to that end was taken by representatives of the administration, and not by the railroads. This statement is based by the *Railway Age* upon a definite knowledge of what actually has occurred. Furthermore, the government has now appointed a liaison officer for the Public Works Administration and the Federal Co-ordinator of Transportation to promote borrowing by other railways. There can be no just criticism of the loans excepting upon the ground either that the expenditure of the money by the railways will not help to revive business, or that it will be harmful to the railways themselves to borrow and spend it.

### Will Business Be Helped?

First, then, will the expenditure of the money by the railways help to revive business, and thereby increase employment and promote recovery? It will, if the expenditure of any money provided by the government for any purpose will have these effects. First, unlike expenditures upon federal, state and municipal government public works, it probably, in the long run, will not cost the taxpayers anything. Following the return of the railways to private control in 1920 the government loaned them \$1,080,000,000, all of which but about \$40,000,000 has been repaid with interest that yielded a large profit to the government. The money now being borrowed by them will likewise be repaid



if their earning capacity is ever reasonably restored. Second, the money will be spent for deferred maintenance and improvements which will help the railways to maintain an essential service and effect economies in operation. Of how much of the expenditures proposed upon government public works can it be said with any assurance that they will not be a burden upon the taxpayers, that they will be made only for essential purposes, and that they will effect economies? Third, unlike the expenditures upon government public works, those for which loans to the railways are being made can be begun at once and will produce immediate effects upon general business and employment. Fourth, the increased employment they will cause will be given to men who will be able to do their accustomed work in their own communities. Fifth, they will directly stimulate the capital goods industries, the decline of employment in which has been the greatest. The principal avowed objectives of the government's recovery policies being an immediate stimulation of business and employment to meet an emergency, in what better way could attainment of that objective be sought than by loans to increase railway expenditures?

#### Will the Railways Be Benefited?

Will the acceptance of further government loans and increase of their expenditures be of benefit to the railways? If they would not be, the railways would not be warranted in accepting the loans. A plausible argument could be made that it is undesirable for the railways to increase their existing indebtedness, and especially to increase their indebtedness to the government, at a time when the future of business is so doubtful and is rendered more doubtful than it otherwise would be by certain government policies that are intended to promote economic revolution and consequently tend to delay economic recovery. One answer to that argument is that those who are most strongly opposed to revolutionary policies that tend to delay recovery should be the strongest supporters of policies that do not tend to promote revolution and do tend to promote recovery. The less effective support the administration receives in trying to carry out sound policies, the greater will

be the pressure upon it to carry out unsound policies, and the greater its disposition to yield to such pressure. The *Railway Age* believes it will be an economically sound policy for most railways to accept loans from the Public Works Administration, both because they can save by borrowing the money on the terms now offered and spending it, and because, by helping the government to carry out sound policies, they will help to reduce the danger that there will be carried out unsound policies that would be as injurious to them as to any other industry.

#### Sound Versus Unsound Policies

The terms for loans now offered the railways are more liberal than they can hope to get for years, if ever, from private investors. It is hardly conceivable that the management of any railway which has drastically reduced its capital and maintenance expenditures during the last three years could not, even on the basis of present traffic, so use part of the money as to effect annual savings in operating expenses several times as great as the annual interest it would have to pay on it. The savings in operating expenses accomplished would be greatly increased if a substantial expansion of general business and traffic should occur, and even the most pessimistic can hardly believe that a substantial improvement in business will be long postponed if real backing is given to sound government policies. The downward trend since July undoubtedly has been principally due to unwise government economic policies, and it does not seem reasonable to anticipate that an administration which is absolutely dependent upon an improvement in business for its continuance in power will persist indefinitely in following unsound policies if it can get encouragement and support for sound policies. The very terms upon which loans are now being offered to the railways indicate a realization by some, at least, of the administrators of the government's policies that, not government dictation to business, but government co-operation with business, is required to promote recovery, and business should, in its own interest, promptly accept every form of real and constructive co-operation that is offered.

#### Straight Into Payrolls

Secretary Ickes rightly emphasizes the celerity with which \$135,000,000 of Public Works Administration funds allotted to railroad uses can be forced into payroll circulation. In this respect such government loans have positive advantages over miscellaneous "public works," which despite the best efforts of government bureaus remain hampered by inevitably slow legal procedure.

In another respect they are eminently right. The employment they create will be that of men who need not leave their homes to get jobs, who will work at their accustomed trades and spend their earnings in their hundreds of widely scattered home communities. The loans, moreover, will affect the capital goods industries, which in their nature are least affected by the employment-spreading devices of NRA. If we must stimulate industry by "artificial" means such as these—and we doubtless must while the emergency lasts—

they should be applied to the trades in which stagnation is at its worst. \* \* \*

It may be asked whether this plan for reviving capital goods industries which Secretary Ickes has begun to apply to the railroad field could not safely and beneficially be applied to others. It is true enough, on the whole, that greater plant capacity is not just now the country's crying need. But plant upkeep and rehabilitation have been in arrears for two or three years; this is even more true of the smaller establishments in every state than of the great centralized industries. Whatever help can be extended for overhaul and improvement, on adequate security, will do incomparably more to enlist private enterprise and private capital for national recovery than an equal allotment of funds to unproductive public works still in the planning stage.

*From an Editorial in the Wall Street Journal.*



# What Results from Storedoor Service?

L. c. l. freight traffic increases generally reported—  
How expense can be reduced

THE proof of the pudding is in the eating. In the preceding article of this Traffic Development Series, published in the *Railway Age* of November 4, it was pointed out that there exists a demand on the part of shippers for storedoor collection and delivery of l.c.l. freight, and that this demand is recognized by most railway officers and by others who have undertaken to inform themselves on the subject. It was suggested that the provision of such service is a necessary part of the traffic development program which the railways must adopt if they are to recover freight traffic which has already been lost, and forestall the loss of additional traffic, to highway competitors. In theory, pick-up and delivery service appears to be a promising means of meeting truck competition, since thereby the railways duplicate a feature of truck transportation that has found favor among shippers. But theory is not enough. How about railroad pick-up and delivery service in actual practice? What have been the results of railroad provision of storedoor service? On those roads which have tried it, has it stopped the loss and brought about the recovery of l.c.l. freight traffic?

If the expressed opinions of officers on the roads which have tried the service are to be taken at their face value, the question cannot be answered with a simple "yes" or "no". The situation was aptly expressed by J. R. Turney, formerly vice-president in charge of traffic of the St. Louis Southwestern, and now director of the Section of Transportation Service under the Federal Co-ordinator of Transportation. In an address delivered about a year ago, he said, "The experiment of the southwestern lines in giving storedoor delivery of l.c.l. freight during the past year has proved a magnificent

success or a miserable failure, depending upon the source of your information. With respect to this question, the southwestern carriers are divided into three parts. The first part were and still are convinced that the scheme is a hare-brained method of increasing carrier deficits. It was inevitable that they should accept the tariff as a mere change in routine, depend upon draymen to advise the public of its provisions, and let time justify their worst convictions. It has. The second class set about the experiment enthusiastically in the belief that, with storedoor delivery, a magic incantation had been found by which trucks could be forever exorcised. They have been disappointed. The third believed it essential to advertise the new service and supplement it not only with an active solicitation but by improved handling. On the whole, the last group of carriers is satisfied but not contented with results."

## Opinion Divided

At the present time, some officers, even of roads which have made determined efforts to extract the greatest good from their provision of pick-up and delivery service, state that it has had little effect in meeting truck competition, while others are enthusiastic over the results which they have secured and point to them as evidence that truck competition cannot be met by the railways without the adoption, among other things, of storedoor service. The assistant freight traffic manager of one road says, "The pick-up and delivery service provided by us has served to hold a greater volume of the l.c.l. traffic than would have been retained if this service had not been provided, but we attribute that condition to the comparatively low rates



Pick-Up and Delivery Trucks of Its Subsidiary Have Recovered Much Traffic for the Southern Pacific

which were published at the time the pick-up and delivery service was established, rather than to the additional service that it affords. The l.c.l. traffic has continued to be diverted from us gradually to the highway motor trucks." The freight traffic manager of another railway says, "So far as our railroad is concerned, the result of the pick-up and delivery service has been to restore to us some of the traffic that we would not otherwise have received." A third officer states that the pick-up and delivery service on his railway has brought about a gradual but steady increase in l.c.l. freight traffic ever since it was established.

If it cannot be said that railways which have established pick-up and delivery service are uniformly enthusiastic over the results, it can at least be stated with assurance that a majority of those which have labored with persistence and resourcefulness to make it a success, have found their efforts rewarded. They have found that pick-up and delivery service of l.c.l. freight, while capable of no miracles in defeating truck competition, is an essential ally in the campaign for freight traffic recovery. There are a number of good examples of railways of this sort, but reference to only a half dozen of them will suffice to make the point.

#### **Southern Pacific Gets Good Results**

One such road is the Southern Pacific, a subsidiary of which, the Pacific Motor Transport Company, originated a highly successful means of meeting truck competition by the co-ordination of railway and highway service. The Pacific Motor Transport Company operates as a carrier in its own right, providing truck service for collection and delivery of its freight and contracting with the railways over whose lines it operates for station-to-station service. The Pacific Motor Transport Company established service on the Southern Pacific between Los Angeles, Cal., and Santa Barbara on October 1, 1929. Within 30 days, it was hauling an average of 15 tons of l.c.l. freight per day to Santa Barbara, all of which was business previously moving by truck, and the earnings averaged as high as 80 cents a car-mile after payment of pick-up and delivery costs.

This is typical of what occurred wherever the Pacific Motor Transport Company extended its operations. Within less than two years, the company was carrying 10,000 tons of l.c.l. freight per month, with revenues in excess of \$80,000. Part of this increase in business was due to expansion of the service but most of it, despite depressed business conditions, was due to increased traffic in the territory which had been served for some time. What the Pacific Motor Transport Company accomplished in the first two years of its operations, it is continuing to accomplish. There is evidence of this in the annual report of the Southern Pacific for the year 1932, which said at one point, "The volume of traffic secured by the Pacific Motor Transport Company increased 43.42 per cent over that for the year 1931. Much of the competitive traffic handled by the transport company has been taken from competing motor trucks." The establishment of the Pacific Motor Transport Company, with store-door collection and delivery service as a fundamental feature of its operations, has been of tremendous value to the Southern Pacific in helping it to meet truck competition.

#### **Progress on S. P. & S.**

Another Pacific Coast example of a railway which has successfully used pick-up and delivery service in a counter-attack against truck competition is the Spokane, Portland & Seattle, which has a subsidiary, the Northwest Freight Transport Company, operating in a

manner similar to that of the Pacific Motor Transport Company. The Northwest Freight Transport Company began its operations in November, 1930. Traffic recovery began immediately, and in the fifth month of operation traffic in the territory served by the transport company had so increased that the total of railway traffic and of transport company traffic for the month of March, 1931, was 81 per cent greater than in the same month of the previous year, in spite of the general decline of business activity and of railway traffic in general which occurred during the year. The pick-up and delivery service definitely stopped and apparently has continued to stop the trend away from the railway and has been responsible for restoring a considerable amount of merchandise to freight trains.

On the Texas & Pacific, a subsidiary, the Texas & Pacific Motor Transport Company, is the medium by which shippers are afforded a co-ordinated rail-highway service. In the face of declining business conditions in general, the merchandise traffic handled by the Texas & Pacific Motor Transport Company began a rapid increase shortly after it was established, so that in the last month of the first year's operation, the volume of traffic was 140 per cent of the general average over the 12-months period. A careful check at two of the principal distributing centers where the motor transport company operates showed that approximately 85 per cent of the tonnage handled had been recovered from competitive motor trucks. In some instances, the recovery was still larger. This was shown by a check of an average day's shipments made by a large wholesale house, where 44 out of 45 shipments handled by the transport company formerly would have moved by truck. Offering store-door collection and delivery service, the Texas & Pacific Motor Transport Company is definitely meeting and overcoming truck competition along the lines of the Texas & Pacific.

#### **Katy Traffic Steadily Increases**

Another southwestern road, the Missouri-Kansas-Texas, has likewise effected the recovery of traffic through the provision of pick-up and delivery service for l.c.l. freight. A subsidiary of this railway, the Missouri, Kansas & Texas Transportation Company, recently completed the third year of its operations, handling in the last month of the third year nearly 6,000,000 lb. of outbound l.c.l. freight, the heaviest tonnage in its history. The operations of the transportation company have been successful from the beginning. The first year's operations showed a total outbound business of 39,211,113 lb. of l.c.l. freight. This business was increased by 16 per cent in the second year, when 45,494,094 lb. of freight were handled. There was a 21 per cent further increase in business in the third year as compared with the second year, a total of 54,941,231 lb. of freight having been handled. During the first six months of this year, the outbound business handled by the transportation company represented an increase of 52 per cent over the corresponding months of 1931.

The Louisville & Nashville, together with several of its connecting lines, began the provision of pick-up and delivery service for l.c.l. freight on March 15 of this year. During the month of August, the pick-up and delivery service was credited with the recovery of 10,130,232 lb. of freight. This estimate does not take into consideration the amount of business that neither terminated nor originated on the Louisville & Nashville nor the tonnage received and delivered to connections. The operation of the pick-up and delivery service is also attracting a certain amount of carload business which the railway might not otherwise secure, and it is esti-



mated that the traffic recovered during August, together with retained business that otherwise would have been lost, was approximately 20,000,000 lb.

In the first year of its provision of pick-up and delivery service, the Boston & Maine conservatively concluded that this additional inducement to shipping by rail had prevented a further spread of truck competition in its territory and had brought about the return of some business to the railroad. Pick-up and delivery service began on the Boston & Maine on May 16, 1932. For the week ending May 13, 1933, the forwarded merchandise traffic from all pick-up points, including Boston, represented an increase of approximately 2,000,000 lb., or 45 per cent, over that handled in the same week of 1932. In Boston alone, there was an increase of approximately 1,000,000 lb. in the merchandise traffic handled, or 39 per cent.

#### Does Added Traffic Justify Expense?

The foregoing would appear to leave little room for doubt that on these roads at least the provision of pick-up and delivery service has brought about increases in business and recovery of traffic from trucking com-

traffic, including local and joint traffic, was approximately \$9,900, or 18 per cent of the revenue on the business so handled. The Boston & Maine's average earnings on the freight were 33 cents per 100 lb., or 27 cents per 100 lb. if the cost of trucking is deducted.

Two years after the beginning of its operations, the average gross earnings on freight handled by the Pacific Motor Transport Company, Southern Pacific subsidiary, were \$8.70 per ton. The average cost of pick-up and delivery service was \$1.15 per ton for each service, or a total of \$2.30 for both. Deduction of this expense leaves \$6.40 a ton—the earnings from what was largely "added traffic" which otherwise would have moved by truck, and the handling of which by rail required no additional train service, few additional car-miles and little added station expense.

Later experiments of the Pacific Motor Transport Company have shown the way whereby the expenses of pick-up and delivery service can be reduced. This company has found that, with some exceptions, it can provide better service and at less cost by operating its own trucks than by contracting for the work with local draymen. At Santa Barbara, Cal., for example, the

Efficiency, Economy and Increased Traffic Have Resulted from the Cotton Belt's Operation, Through a Subsidiary, of Its Own Pick-Up and Delivery Equipment



petitors. There remains, however, the question of whether the increased traffic is sufficient to offset the extra expense incurred in the provision of free store-door delivery. It is generally recognized that the cost of furnishing pick-up and delivery service is a rather large proportion of the gross revenue on short-haul business. As one railway officer expresses it, "The cost of this service under the present rate structure is altogether too great in proportion to the net revenue resulting on business handled within a radius of perhaps 150 to 200 miles. This cost remaining constant, however, should permit satisfactory net returns for business handled greater distances." Statistics tending to show how profitable have been the increases in traffic resulting from the provision of pick-up and delivery service are not ordinarily available for publication. Two instances in which such data have been made available, however, are enlightening.

During the month of April, 1933, the Boston & Maine handled at all points 38,564 pick-up and delivery shipments, weighing 16,702,242 lb. The trucking cost on the local business was approximately \$5,500, or 20 per cent of the freight revenue. The average rate earned on this local business was 40 cents per 100 lb., or 32 cents per 100 lb. if the cost of trucking is deducted. The trucking cost on the entire pick-up and delivery

operation of the company's own delivery trucks has been carried on at an average cost of \$414 per month, or of \$1.06 a ton, while, when this work was done by the local drayman, the cost was \$1.70 a ton, and the service was less satisfactory. At points where the Pacific Motor Transport Company has changed over from provision of pick-up and delivery service by contract truck to operation of its own trucks, the reduction in the pick-up and delivery expense has averaged approximately 20 per cent. The Pacific Motor Transport Company has found not only how traffic can be recovered from competitive trucks, but also how the expense of doing what is necessary to recover lost business can be held to the minimum, thereby increasing the net earnings from the recovered freight traffic.

#### Conclusions Based on Experience

What conclusions are to be drawn from the experiences of the railways mentioned in the foregoing? These, it seems, can fairly be stated: Pick-up and delivery service for l. c. l. freight, when provided by railways, offsets a feature of truck transportation which has been found attractive by shippers. By itself, it will not bring about a recovery of railway traffic which has been lost to motor trucks, but taken in conjunction

(Continued on page 694)





The Long Skew Crossing of Cheltenham Avenue Was the Key Point in the Project

# Large Grade Separation Project Completed on the Reading

Tracks raised for 1.8 miles through the Germantown section of Philadelphia, Pa., to improve crossing conditions—  
Two attractive stations provided

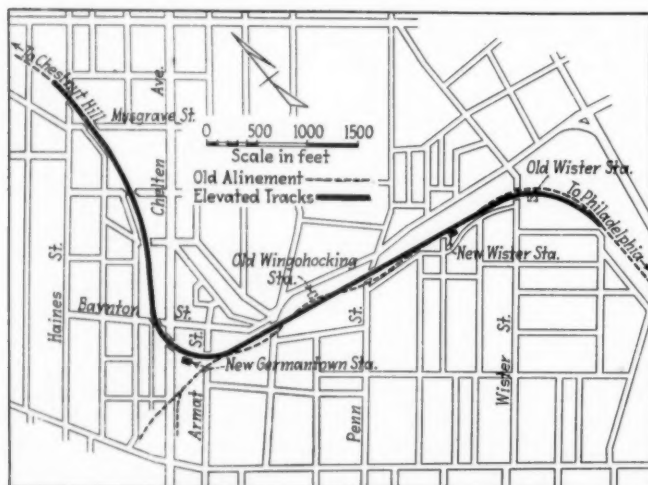
THE Reading has recently completed an important grade separation and general improvement project on its Germantown and Chestnut Hill suburban line, at Germantown, an important densely populated residential and business section of the City of Philadelphia, Pa. This work included the elevation of two tracks for a distance of about 1.8 miles, the improvement of conditions at nine street crossings, and the construction of two passenger stations, new local freight handling facilities, and two long freight lead tracks. This work was carried out simultaneously with the electrification of the line, which, however, was handled as an entirely separate project. The work at Germantown, exclusive of electrification, cost approximately \$1,800,000.

The Germantown and Chestnut Hill branch, which is a part of the old Philadelphia, Germantown & Norristown railroad, constructed in 1832 and now double-

track, has always been an important commuter line, but is expected to become increasingly so as a result of the recent improvements. In passing through Germantown, the most important suburb on the branch, the railroad lies largely in a valley and, prior to the elevation work, crossed eight streets, three at grade and the remainder overhead. Practically all of the latter crossings involved narrow underpasses, with restricted clearances, some of the structures having been constructed as early as 1854. In the new work, the three grade crossings were eliminated by track elevation, one new street was carried under the railroad, and all but one of the other crossings were widened and otherwise improved by the construction of new bridges. In the exception noted, the existing structure, which had a clear span of 40 ft., was raised to give additional highway clearance, and was provided with new bridge seats and back walls. Altogether, eight main track bridges were constructed, six carrying two tracks, one carrying four tracks, and another carrying three tracks. In addition, two double-track bridges and one three-track bridge were built over one of the streets to carry the new freight tracks.

The track elevation was largely for the purpose of separating grades at the three crossings, all of which were located in the heart of the business section, and one of which carried two street car tracks and particularly heavy vehicle traffic. In effecting this separation, however, it was recognized that opportunity would be afforded to improve conditions at the street undercrossings, which fact was particularly desirable from the standpoint of street traffic. It was apparent also that this work would permit improvement of the rather irregular alignment of the railroad, without materially exceeding the existing maximum grade.

Prior to the elevation work, the line, from the south, approached the first crossing affected, Wister street, on an eight-degree curve. Passing a small local passenger station at this point and then over Wister street on a



Sketch of Old and Revised Track Layout Through Germantown

bridge, it continued almost due west, crossing over Penn street and Church lane in succession, two important streets about 1200 ft. apart, and passing another small passenger station, called the Wingohocking station, located about midway between these streets. About 300 ft. west of Church lane, the line began an abrupt swing to the north on a curve of approximately 14 deg. 30 min. and about 1300 ft. long, with 112 deg. of central angle. On this curve the line crossed in succession Armat street, Cheltenham avenue and Baynton street at grade. On the outside of the curve near the center, between Armat street and Cheltenham avenue, the latter the most important thoroughfare in the town, were located the main passenger station and the old local freight facilities.

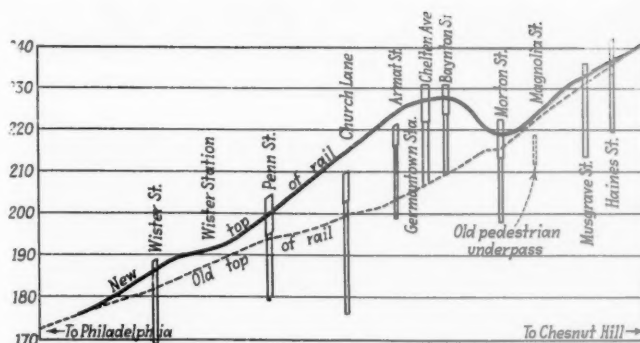
The elimination of the grade crossing at Cheltenham avenue was the principal objective of the elevation project. At the same time, this thoroughfare, and the next, Baynton street, about 300 ft. to the north, were the critical points in the project since the separation of grades at these streets required the greatest rise in the track level.

Beyond the north end of the curve, about 100 ft. north of the Baynton Street crossing, the line continued generally north, passing over Morton and Haines streets on bridges. Between the crossings of these streets, which are approximately 1700 ft. apart, lay Magnolia street, which, except for a pedestrian subway, was blocked by the railroad, and Musgrave street, which had never been opened across the right-of-way.

The old line was on a generally ascending grade northward through the town, varying from 0.6 per cent from a point about 600 ft. south of Wister street to Penn street, then 0.5 per cent to Armat street, and then increased to 0.8 per cent to about Morton street, where it increased to 1.02 per cent to a point north of Haines street.

The track elevation was started about 1200 ft. south of Wister street, the line rising on a 1 per cent grade to Wister street and then on a 0.5 per cent grade for a distance of approximately 1,000 ft., beyond which point it was increased to 1.29 per cent to Armat street. From Armat street to Cheltenham avenue, there is a vertical curve, which connects with a short section of level track between Cheltenham avenue and Baynton street, where the elevated tracks are from 18 to 20½ ft. above the old level. North of Baynton street the tracks descend on a grade of 1.5 per cent for a distance of about 800 ft. to Morton street, and then climb again on a grade approximating 1.5 per cent to a connection with the old line about 200 ft. north of Haines street.

Reference to the profile of the new line shows that the elevation required to effect grade separation at both Cheltenham avenue and Baynton streets was secured without lowering the streets and without increasing materially the ruling grade on the line. The dip in the line north of Baynton street, with its low point in the vicinity of Morton street, was permitted since there was



Profiles of the Old and Elevated Tracks Through Germantown

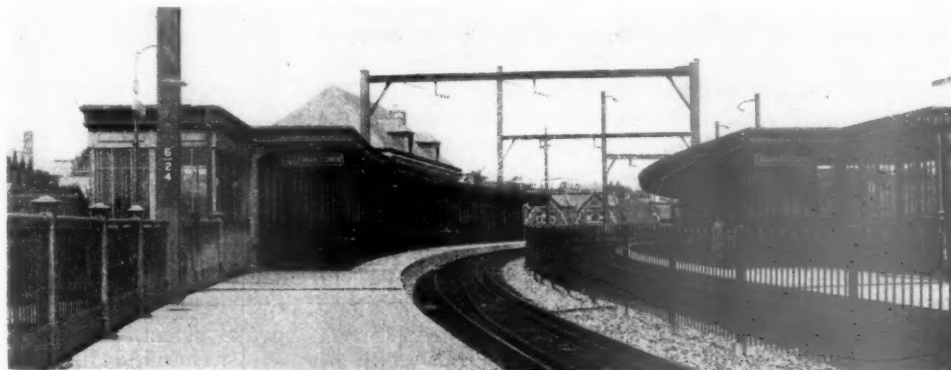
no necessity for enlarging the existing undercrossing at this latter street, and to alter the old track level at this point as little as possible saved much filling and retaining wall construction. This sag introduced sections of 1.5 per cent grade each side of Morton street, but these are short and present no obstacle to the operation of the electric commuter trains and the few local steam freight trains which use the line.

In the track elevation work, the old 40-ft., 22-ft. and 40-ft. bridges at Wister street, Penn street and Church lane, respectively, were widened to 50 ft.; Armat street, Cheltenham avenue and Baynton street were each crossed by new bridges; the old 50-ft. bridge span at Morton street was renewed in kind; a new undercrossing with a 60-ft. opening was provided at Musgrave street; and increased vertical clearance was provided at Haines street by raising the existing bridge. No change was made at Magnolia street where there was already a pedestrian subway. Other improvements involved in the project included the construction of a relatively small but attractive passenger station between Wister and Penn streets, called Wister station, to replace the old Wingohocking and Wister stations, which were abandoned, and the construction of entirely new station facilities at Germantown proper to replace an old shed-type station.

#### Methods Varied with Conditions

The elevation of the tracks was, for the most part, done one track at a time, although at several points the new alignment was straightened to eliminate several unnecessary swings, and both tracks were raised simultaneously. Stated briefly, the general construction program and method of train operation were as follows: South of Penn street, all train operation was confined to the northbound main and the southbound main was taken out of service. Near Penn street, traffic was shifted from the northbound main to the southbound main for single-track operation to the north end of the work throughout the first stage of construction. From Penn street north to Baynton street, the southbound main was then shifted to the west and south as far

Looking Over the Platform Facilities at the New Germantown Station







The Cellular Retaining Walls Within the Main Station Area, Just Before Filling Was Begun

as possible to avoid interference between train operation and the work. This move permitted unrestricted double-track construction work to proceed over the most critical section of the project, including the new Germantown passenger station with its long elevated platforms, and the main line crossings of Armat street and Cheltenham avenue.

With operation so lined up, the southbound half of the roadbed, south of Penn street, was raised, this work including the construction of the southbound half of the new Wister street bridge and the southbound, or principal half of the new Wister station. Beyond the point of transfer of traffic from the northbound to the southbound track near Penn street, the first stage of the work was on the north side of the right-of-way, or across the full width of the normal roadway where the shifting of the southbound main permitted. Retaining walls were first constructed where necessary, along with as much of the new bridge abutments and curb piers as was possible, and filling operations were then begun. By shifting the southbound main temporarily and straightening the track alignment in the vicinity of Penn street, it was possible to complete the new double-track bridge at this point in the first stage of the work. At Church lane, the same situation prevailed, but since the new bridge here carries two new local freight leads in addition to the main tracks, only its north half could be completed during the first stage.

#### Much Done Without Traffic Interference

At Armat street, where grade separation was effected for both mains as well as for the service ends of the new freight leads, the first stage of the work included the construction of retaining walls, and the completion of the double-track main line bridge, the northbound freight lead bridge and the more northerly or easterly of the three freight yard bridges. Between Armat street and Cheltenham avenue, the first stage included the construction of retaining walls along both sides of the right-of-way, the erection of the new Germantown passenger and freight stations, the completion of the two-track bridge over Cheltenham avenue, and the erection of the northbound half of the two-track bridge over Baynton street.

North of Baynton street, the walls and embankment on the northbound side were constructed first, along with the northbound half of the new Morton Street bridge. In this section, owing to the narrow width of

the right-of-way, concrete cribbing had to be used to a considerable extent to prevent the inner side of the single-track fill from encroaching on the operating track, and throughout about 300 ft. even this construction was not adequate, the height of the fill requiring the construction of a temporary timber trestle.

At Musgrave street, where a new undercrossing was provided, which involved the removal of the railroad embankment across the street, it was necessary during the first stage of the work to construct a temporary low-level timber trestle under the southbound main in order that that track could be kept in service while the street excavation was being made and while the northbound half of the bridge was being built. During the construction of the trestle, all traffic was carried around it temporarily on a short section of the northbound main.

At Haines street, the most northerly street involved in the project, the existing girder structure was merely raised about 16 in. to afford an underclearance of 14 ft. The entire bridge was raised as a unit, without any special difficulty.

Upon the completion of the high-level northbound track and the northbound sides of the new Wister and Germantown stations, all traffic was transferred to this track. This transfer, which completely separated rail and street traffic through the town, was effected on August 1, 1932, 237 days after the work was begun.

The closing stage of the project involved many de-



The New Germantown Station Affords Every Convenience of a Large Station

tailed operations, but all were of a rather ordinary nature, directed toward the elevation of the southbound main track and the southbound freight lead, and the completion of the new passenger station and freight facilities. All of this work was practically completed on December 2, 1932, when the high-level southbound main was put in service.

The grading in connection with the work, which amounted to approximately 120,000 cu yd., was handled largely by motor trucks, although some work-train fill was made during the second half of the construction. Most of the filling material was common soil, secured from excavations in connection with local building operations.

#### Details of Bridge Construction

There is little of an unusual nature about the bridges constructed in connection with the track elevation, all, with the exception of the three freight track bridges over Armat street and the main line bridge over Musgrave street, being of the girder type with concrete decks carrying 10 in. of stone ballast beneath the ties.



The other bridges are of the I-beam type, with the deck steel completely encased in concrete. The decks in all cases were waterproofed with three plies of fabric in asphalt, covered with asphalt plank.

Through, half-through and deck girders were used in the different plate girder structures, through and half-through girders being utilized where required to secure adequate under-clearance for street traffic. The floor-beams of the through and half-through girder bridges were encased in the concrete of the deck slab, while in the deck girder structures a concrete slab was placed on top of the girders.

Where the two-track girder bridges were completed as a unit, as at Penn street and Cheltenham avenue, only two girders were employed, while at the other two-track girder bridges, constructed one-half at a time, an intermediate girder was employed. In these latter cases, the center girders were dropped down as low as possible so that anyone on the bridges can pass readily from one side to the other and thus avoid being trapped by trains. Light fascia girders, either encased in concrete or painted the color of concrete, were provided on most of the bridges to enhance their appearance, and, in several of these cases, walk-ways were provided between the fascia girders and the adjacent load-carrying girders as an added safety feature.

Single spans were employed at Wister, Penn and Morton streets and at Church lane, and also for the main track and the northbound freight lead crossings of Armat street, where the roadway in all cases is 50 ft. wide, while at the other streets, and at the freight yard bridges over Armat street, curb columns or multiple-arch concrete bents were used. The widest crossing is at Cheltenham avenue, where a 48-ft. roadway and two 16-ft. sidewalks were provided. The main girders of the bridge at this crossing are 75 ft. 8 in. long, center to center of curb columns.

All new bridge abutments and practically all retaining walls are of the mass type, with gravity sections. In these structures, 1-3-6 concrete was used in the foundations and 1-2½-5 concrete in the superstructures.

The outstanding exception in the construction of retaining walls was made through the area of the new Germantown station, between Armat street and Cheltenham avenue. Here, reinforced concrete cellular walls of 1-2½-3 concrete, earth filled, were built to support the tracks and station platforms. These walls, which average about 24 ft. high, are box-like structures with 18-in. inside and outside walls which are held together at intervals of about 20 ft. with 12-in. tie walls. The walls as a whole are 13 ft. thick, out to out, providing platforms of this width, and are spaced 24 ft. 11½ in.



The New Attractive Bridge Crossing of Church Lane

apart, inside to inside, permitting 14-ft. 9-in. track centers with suitable side clearance for the platforms.

### Stations are Attractive

Both of the new stations at Germantown are attractive and well designed to meet the needs of the town. The main station, which replaced an old one-story brick structure and a two-track wooden train shed, is a two-story building of broken ashlar masonry, with a slate roof, served by two concrete track platforms, each 500 ft. long. Both of the platforms are provided with long sections of canopies, and, in addition, the northbound platform, which is on the side of the tracks opposite the station building, is provided with an enclosed waiting room and has connection with the station proper by means of stairways and two pedestrian subways.

The station building is 63 ft. long by 27 ft. wide and is approached over a wide driveway from Cheltenham avenue. The first floor of the building is divided into an entrance and exit lobby, a baggage room and a heater room, while the second floor, which is at the track level, contains the ticket office and waiting room.

The Wister station, between Wister and Penn streets, is a one-story building 53 ft. long by 23 ft. wide, and, like the larger main station, is of broken ashlar masonry and has northbound and southbound platforms, each protected in part by canopies. Both station buildings have attractively finished interiors, the floors being of colored tile and the walls of plaster, painted light green, above a colored terra cotta wainscot. The trim and furniture within both stations is of light oak.

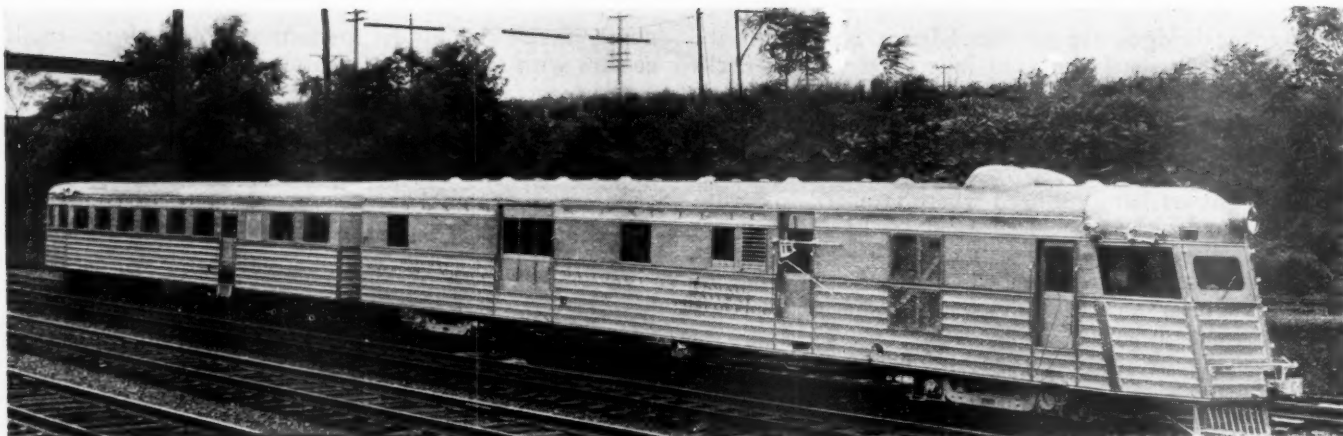
The platform canopies of both stations have steel frames with board roofs and are closed in on their back sides by glazed steel panels. The small northbound waiting room at each station is also enclosed with glazed steel panels. Both stations have been provided with sizable paved auto parking areas to accommodate commuters or others who wish to leave their cars while traveling to and from Reading Terminal, Philadelphia.

### New Freight Facilities

The new freight facilities at Germantown include a local freight house and freight yard with a long freight lead; a public delivery trestle with 10 bins for the unloading of such bulk materials as coal, sand and gravel, serviced by another long freight lead; and an auxiliary public delivery freight yard near the north end of the town to accommodate shippers and consignees in that vicinity.

The main local freight layout includes a steel frame, brick freight house about 125 ft. long by 30 ft. wide, with an office facing on Cheltenham avenue; auto delivery platforms providing for both side and end-door unloading; six public delivery tracks served by wide concrete driveways; a freight house track and two auto delivery tracks. In addition, the facilities include a wagon scale and a 35-ton gantry crane which spans two tracks. The new public delivery facilities at the north end of the town consist essentially of two 12-car delivery tracks with a wide paved driveway between them.

All of the work at Germantown was planned and carried out under the direction of Clark Dillenbeck, chief engineer of the Reading, assisted by C. H. Hitchcock, designing engineer and by J. B. Reig, assistant engineer, who had charge in the field. The James McGraw Company, Philadelphia, was the general contractor handling the grading and masonry work, while all of the steelwork was furnished and erected by the McClintic-Marshall Company, Bethlehem, Pa. The trackwork, which was all of 130-lb. "headfree" rail, was installed by company forces.



The Texas & Pacific Stainless-Steel Passenger Train

# Stainless-Steel Train Delivered to Texas & Pacific

Two-car unit for main-line mail-baggage-passenger service  
weighs about 52 tons

**O**N October 24 a light-weight two-car gas-electric train of stainless steel construction left Philadelphia, Pa., for delivery, under its own power, to the Texas & Pacific. Built by the Edward G. Budd Manufacturing Company, the train includes a 15-ft. railway post office, a 33-ft. baggage and express compartment, and provides seats for 76 passengers in three completely air-conditioned compartments. The train, completely equipped and ready for service, weighs about 104,000 lb. and is driven by two 240-hp. gas-engine-generator sets.

On the trip to the Texas & Pacific the car was held for one or more days and opened for public exhibition at Detroit, Mich., Chicago, and St. Louis, Mo., and it will be exhibited at a number of the important cities on the Texas & Pacific before going into regular service. It

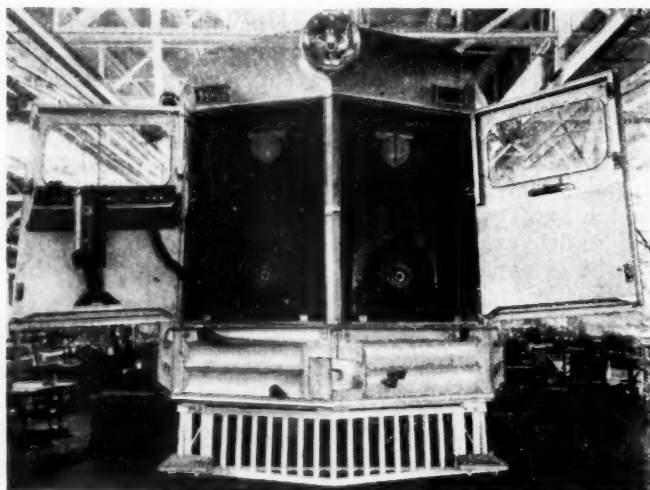
will then operate between Fort Worth, Tex., and Texarkana, Ark., making a round trip of approximately 500 miles daily on a seven-day schedule. It is the first completely equipped passenger train of the light-weight stainless steel construction to be placed in long-distance main-line service.

The train consists of two cars. The first contains the power plant, the railway post office and the baggage and express compartment. It is carried on two four-wheel motor trucks, with Commonwealth cast-steel frames and steel wheels and Timken roller-bearing journals, built by the Baldwin Locomotive Works, and weighs approximately 80,000 lb. ready for service.

In the engineroom are mounted two 240-hp. American-La France gasoline engines, each directly connected to Westinghouse main and auxiliary generators. Each of the 125-kw. main generators drives two 85-hp. Westinghouse light-weight, high-speed electric motors suspended longitudinally from the truck frame and driving the axles through spiral bevel gears. Auxiliary generators drive the compressor of the air-conditioning system, charge the 320-amp.-hr. Exide Ironclad storage battery and carry the auxiliary load, including the lights. The cars are operated by means of the Westinghouse torque control.

The heating and air-conditioning equipment are installed in the baggage compartment. A low-pressure steam boiler furnished by the Vapor Car Heating Company, which is oil fired and equipped with automatic controls supplies steam directly to fin-type radiators in the mail and baggage compartments and to a heat exchanger in the air-conditioning system. Condensate from all these sources is conveyed to a hot well from which the water is returned to the boiler.

A Westinghouse-Sturtevant air-conditioning system of special, light-weight design includes compressor refrigeration and provisions for control of humidity as well as



Front End of the Power Car Opened for Removal of an Engine-Generator Unit



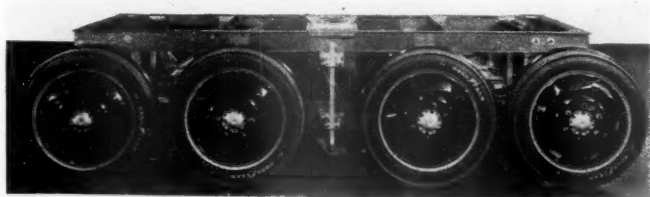
the heat exchanger by which the passenger coach is heated in the winter. A flexible duct between the two cars conveys the properly conditioned air to the passenger car in which it is distributed through openings in the side of the central duct below the ceiling of the car. Air withdrawn from the passenger car for recirculation is also conveyed back to the air-conditioning unit through flexible ducts.

An unusual feature in the construction of the power-plant car is the use of wide doors to close the front-end of the engineroom. By opening these doors the entire engineroom is exposed and the power plants can be pulled forward and removed through these openings.

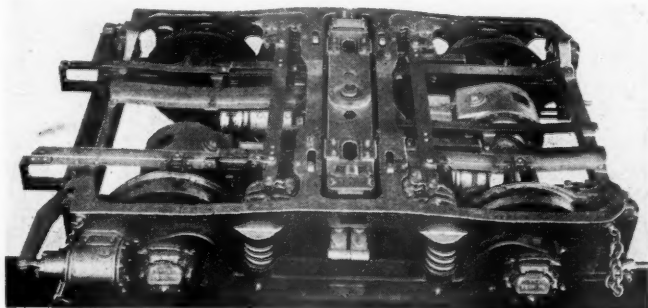
The second car of the train is devoted entirely to passenger accommodations. At the front end is a 12-ft. compartment for colored passengers, with seats for 16. Immediately behind this are two lavatories, one on either side of the car. One of these, for colored passengers, opens into the front passenger compartment. The other, for white passengers, opens onto a short corridor just forward of the entrance vestibule. In the rear of the vestibule is the 35-ft. main passenger compartment which seats 48 passengers. At the rear of the car is a smoking-observation compartment with seats for 12.

Unlike the power car, the passenger coach is carried on trucks with stainless steel frames of truss form fitted with automotive type axles and eight Budd pneumatic-tired wheels in each truck. The wheels are fitted with Timken bearings. The Goodyear tires, designed according to the Michelin system, carry a pressure of 100 lb. per sq. in. and a maximum load of about 2,100 lb. each.

With the exception of the floors of the baggage and mail compartments of the power unit and some of the interior finish of the passenger coach, the car bodies are built entirely of stainless steel by the Shotweld method of construction developed by the Budd Manufacturing Company. The car-body frames consist of modified Pratt trusses extending down from the windows to the bottom of a "skirt" which extends approximately two feet below the floor. The roof is a stiff structure of carlines and purlines covered with corrugated stainless steel sheets and tied into the side truss structure by relatively wide dead panels spaced between the windows of the passenger car and by a full truss structure in the baggage car. Stiff horizontal trusses across the ends of the cars below the floor serve to distribute buffing and



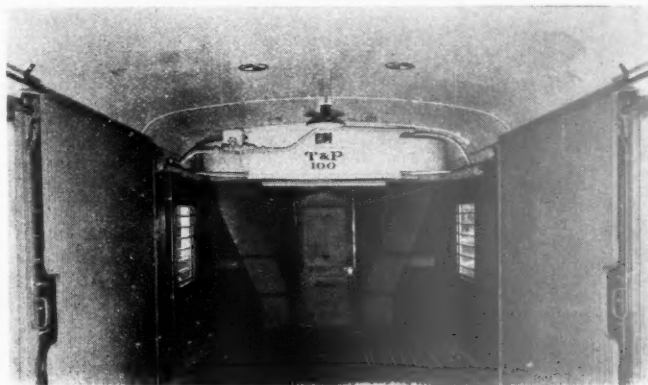
The Stainless-Steel Pneumatic-Tired Truck for the Passenger Coach



One of the Power Trucks



Front End of the Baggage Compartment Showing the Heating Boiler and the Contactor Panel



The Rear End of the Baggage Room Showing the Overhead-Mounted Air-Conditioning Units

pulling stresses over the sides and underframe structure. An objective in the design has been to provide a structure which will act as nearly as possible under all circumstances as a complete unit.

The cars are insulated with Alfol. The ceilings of both cars are finished in Masonite's Tempered Presdwood headlining. In the power car the engineroom and mail compartments have No. 16 gage steel side linings, while the baggage compartment is finished with corrugated galvanized steel sheets.

The side linings of the passenger car are finished in insulated Formica, finished in two tones of gray. The windows in this car are of polished plate, shatter-proof glass, permanently closed. The double seats, furnished by Hale & Kilburn, have individual backs and are comfortably upholstered, with air-check seat cushions. The aisle arms are covered with upholstered pads. The upholstery is in blue leather which matches the window curtains in shade. Parcel racks, with coat hooks, are provided above the windows throughout the passenger compartments. The lighting is of the indirect type developed by the Budd Manufacturing Company, augmented by a few direct lighting units mounted in the bottom of the central ceiling duct.

In the case of the power car, the flooring consists of  $\frac{7}{8}$ -in. tongue and groove maple. In the mail compartment this is covered with cork tiling. In the passenger car the flooring is of stainless steel construction and the





Interior of the Passenger Coach Looking Toward the Observation-Smoking Room

surface is covered with cork tile. The aisle and the smoking-observation compartment are carpeted.

Unusual attention has been given to the provision of safety features in connection with the operation of the cars. Failure of the lubricating-oil pressure automatically shuts down the engines. An emergency stop caused either by the operation of the deadman's handle or the conductor's valve also shuts down the engine and opens all contactors on the control panel.

The power car is equipped with power brakes of the Westinghouse S.M.E. system operating clasp brakes on all eight wheels through truck-mounted cylinders. The same controls operate Bendix-Westinghouse brakes of the automotive type on the passenger car. The four outside wheels on each truck are fitted with brake drums and internally expanding shoes.

The train is designed for top speeds of better than 75 m.p.h. This speed, in fact, was maintained with ease while on the trip from Philadelphia to Chicago, a trip which was made without need of mechanical adjustments of any kind. The cost of operation, compared with a steam train with capacity for the same service and which weighs about 600,000 lb. including the locomotive, is anticipated to be less than one-half of that of the steam service.

## What Results from Storedoor Service?

(Continued from page 687)

with other improvements in railway transportation, it is a powerful influence in favor of the routing of l. c. l. freight by rail rather than by highway. Pick-up and delivery service will not succeed unless every effort is made to make it succeed; it must be advertised and capitalized at every opportunity. It is expensive, but that expense can be reduced by improved methods of providing the service. Furthermore, in most, if not all, instances, the increased traffic which it has attracted and will continue to attract represents railway revenue in amounts more than offsetting the extra expense assumed for the completion of the job of transportation.

Collection and delivery service for l. c. l. freight is now to be found on railways in the United States from coast to coast. It is prevalent in the Pacific states, in the Southwest, in parts of the Middle West and the Southeast and in New England, and it is soon to be

spread through the eastern and central territories. Its general adoption now appears assured and the results, from the standpoint of railway traffic, should be gratifying, for railroad provision of storedoor collection and delivery, in its simplest terms, represents merely that co-ordination of railway and highway transportation which is essential in the railways' program of freight traffic development.

## Freight Car Loading

WASHINGTON, D. C.

**R**EVENUE freight car loading in the week ended October 28 amounted to 636,674 cars, a decrease of 13,808 cars as compared with the week before but an increase of 19,390 cars, or 3.1 per cent, as compared with the corresponding week of last year. The figures for this week in both years showed indications of the seasonal downward trend but the drop was less pronounced this year. As compared with 1931 there was a decrease of 103,689 cars. Grain and grain products and coal showed increases as compared with the preceding week and miscellaneous freight, forest products, and coal showed increases as compared with last year. The summary, as compiled by the Car Service Division, American Railway Association, follows:

Revenue Freight Car Loading			
Week ended Saturday, October 28, 1933			
Districts	1933	1932	1931
Eastern .....	139,206	131,495	161,339
Allegheny .....	119,150	111,663	147,410
Pocahontas .....	45,132	45,909	47,837
Southern .....	89,525	91,703	107,093
Northwestern .....	81,836	75,159	88,029
Central Western .....	106,687	103,104	122,843
Southwestern .....	55,138	58,251	65,812
Total Western Districts .....	243,661	236,514	276,684
Total All Roads .....	636,674	617,284	740,363
Commodities			
Grain and Grain Products .....	30,018	31,962	41,275
Live Stock .....	22,130	23,615	28,990
Coal .....	130,438	128,901	141,068
Coke .....	6,339	4,559	5,286
Forest Products .....	23,889	18,862	23,646
Ore .....	18,899	5,984	12,656
Mdse. L. C. L. .....	171,422	177,218	214,339
Miscellaneous .....	233,539	226,183	273,103
October 28 .....	636,674	617,284	740,363
October 21 .....	650,482	641,985	769,673
October 14 .....	664,058	649,690	761,596
October 7 .....	654,428	625,089	763,818
September 30 .....	661,827	621,658	777,712
Cumulative total, 43 weeks .....	24,029,364	23,506,740	31,757,157

The freight car surplus for the first half of October averaged 376,818 cars, a reduction of 3,270 cars as compared with the number in the last half of September. The total included 218,720 box cars, 110,826 coal cars, 17,624 stock cars, and 9,733 refrigerator cars.

### Car Loading in Canada

Car loadings in Canada for the week ended October 28 totaled 49,502, according to the compilation of the Dominion Bureau of Statistics. This was a decrease from the previous week of 2,203 cars, and the index number dropped from 66.57 to 61.83. The total exceeded that of the similar week in 1932 by 2,809.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
October 28, 1933 .....	49,502	19,282
October 21, 1933 .....	51,705	18,873
October 14, 1933 .....	50,303	18,402
October 29, 1932 .....	46,693	18,728
Cumulative Totals for Canada:		
October 28, 1933 .....	1,656,315	792,126
October 29, 1932 .....	1,822,996	817,658
October 24, 1931 .....	2,121,162	1,091,042

# Government Offers Loans for Rails and Equipment

Public Works Administration announces railroad loan policy and first allotments of \$135,000,000

WASHINGTON, D. C.

**F**ORMAL, almost urgent, invitation to the railroads to come forward and take advantage of the opportunity to borrow government money on favorable terms at 4 per cent for the purchase of equipment was extended by the Federal Emergency Administration of Public Works on November 2.

Public announcement of the offer, which had previously been advanced both in the national industrial recovery act and in conferences with railroad representatives, was made in connection with the announcement of initial allotments from the \$3,300,000,000 public works fund of \$51,000,000 for the purchase of steel rails and fastenings by a large number of railroads and of \$84,000,000 to the Pennsylvania for construction work in completing the electrification between New York and Washington and the construction of freight and passenger cars. These allotments had been approved during the day by the Special Board of Public Works and by President Roosevelt, following earlier preliminary negotiations and consultation with Co-ordinator Eastman and the Interstate Commerce Commission. As stated by Secretary Ickes, administrator of the P.W.A., they "were made in realization of the vast importance of quick spending of money in wages and the resultant widespread purchase of materials which may be accomplished through the purchase of railroad equipment." The Pennsylvania's formal application was dated only the day before.

Hope was expressed by the government officials that these allotments would serve as a starter for an extensive program of loans for maintenance and equipment and it is understood that they have had in mind making available as much as \$400,000,000 for the purpose.

The \$51,000,000 for rails and fastenings is an outside figure to cover approximately 1,000,000 tons of rails and about 400,000 tons of fastenings under the plan on which Co-ordinator Eastman and the President have been negotiating with the railroads and the steel companies for several weeks, although many of the roads had indicated their intention of paying for the rails and fastenings without loans and the exact quantities to be purchased had not been definitely determined.

## Greatest Single Job-Creating Allotment

The proposed loan to the Pennsylvania, including in addition to the electrification project \$16,000,000 for the construction of 7,000 new freight cars in the company's shops, to replace old cars, was described by the administration as "the greatest single job-creating allotment made by P.W.A. to date, carrying out the policy of moving men from relief rolls to pay rolls," and as providing directly and indirectly for wages for fifty million man-hours of labor scattered through 35 states.

## Importance of Railroad Purchases Recognized

"P.W.A. wishes to expedite this work," Secretary Ickes said, "so that railroads, which are among the

country's greatest employers, will be able to finance such purchases with reasonable interest and in this way recall a great number of men to jobs in the fabrication of steel rails and other equipment and to aid the heavy industries in furthering reemployment in the large centers of unemployment.

"Therefore, it was declared the policy of P.W.A. to buy qualified securities of railroads desiring to purchase equipment now. This money almost entirely will go into pay envelopes of the various industries involved and add to purchasing power in the mine districts, factories, steel mills and shops as well as to railroad pay rolls. Money will be advanced from month to month as may be necessary to finance the purchase by the railroads of equipment. Interest will not be collected for the first year as the Administration seeks to encourage such railroad purchases and not embarrass the carriers at this time by further immediate commitments. After the first year the interest will be at the rate of four per cent.

"It is the desire of P.W.A. to aid the stricken heavy industries towards recovery with the belief that this in turn will increase railroad traffic so that the roads may more easily meet their interest charges.

"While in the past few days marked progress has been made in reaching terms with the carriers, all details have not yet been settled. Allotments, however, are proper at this time and these details will be cleared before contracts are made which must be satisfactory to the Administration. P.W.A. stands ready to do its part and announces the allotments as evidence of good faith in its sincere desire to expedite the recall of men to work for honest wages."

## F. C. Wright to Supervise Rail Loans

On November 7 Administrator Ickes announced the appointment of Frank C. Wright, of New York, as chief of the Transportation Loan Division of the Federal Emergency Administration of Public Works to have supervision over loans to railroads and other carriers. Mr. Wright has been vice-president of the Bangor & Aroostook since 1920, and was assistant director of the Division of Operation of the United States Railroad Administration from 1918 to 1920.

The Transportation Loan Division, according to the announcement, will advise the administrator in the exercise of the clause of the public works act which authorizes "aid in the financing of such railroad maintenance and equipment as may be approved by the Interstate Commerce Commission as desirable for the improvement of transportation facilities."

It was said to be the policy of P.W.A. "to aid railroads and heavy industries within its power as demonstrated last week in allotments to the Pennsylvania Railroad and for the purchase of railway steel." This policy is to be carried out in consultation with Co-ordinator Eastman, who for some time has been making a survey of railroad needs for cars and locomotives. P.W.A. had



planned to set up a division to carry on this work, but awaited Mr. Wright's acceptance of the appointment before organizing.

According to the press announcement "maturities of the loans will be within the useful life of the equipment, which, in addition to the rails and fastenings, includes such equipment as freight cars, passenger cars, locomotives and structural betterments of rights-of-way. Both allotments are subject to completion of satisfactory contracts between the carriers involved and the Federal Administrator of Public Works. Negotiations for these contracts have been advanced during the past few days and the allotments were made to expedite the work and establish the good faith of the Administration in making the money available."

Somewhat more specifically as to the terms for the proposed loans the railroads were informed on November 2 that "The Administrator has declared the following policy: that from such railroads as need equipment, the government will buy their equipment trust notes month by month in amounts that may be necessary to meet these purchases. These notes are to run 15 years on locomotives and passenger cars at 4 per cent interest, and the federal government will not charge any interest the first year." This applies to equipment. For the rails, as Co-ordinator Eastman has previously stated, it is proposed to make the loans on the basis of notes from the borrowers, due in ten years, at 4 per cent, no interest to be charged for the first year, and with the option to pay in part or in full at any time, but the exact terms had not yet been decided and it is understood that the loan to the Pennsylvania has been discussed on the basis of collateral trust notes, maturing serially, and, so far as they apply to structural work, running for thirty years.

These are much more favorable terms than have been made by the Reconstruction Finance Corporation. Its loans have been limited by law to three-year terms, with the possibility of renewal, and as the corporation has discretion as to the interest rate and other matters each renewal or reduction in interest rate has afforded an opportunity for the imposition of unexpected conditions, either by the R. F. C. or by the Interstate Commerce Commission, or by Congress, which earlier in the year authorized the R. F. C. board of directors to impose conditions reducing executive salaries. The R. F. C. interest rate for railroads was originally 6 per cent but has been reduced for those companies complying with its requirements to 5 per cent. For some other loans it has made rates of 3 per cent.

The Pennsylvania had borrowed \$28,900,000 from the R. F. C., on an original application for twice that amount, but paid it off in June and July. At that time the directors of the corporation expressed the opinion that this action "may be indicative of an early return of the railroads into private financing", but it is now stated that the Pennsylvania electrification work was "virtually discontinued" in the Spring of 1933.

In submitting its new application to the P.W.A. the Pennsylvania said it desired to co-operate to the fullest extent with the recovery program and to that end is planning to concentrate all work possible in the period ending December 31, 1934, although the great magnitude of the project makes it impracticable entirely to complete the work by that date. Work on the project was started in 1929 and its cost was estimated at \$107,000,000, in addition to approximately \$100,000,000 for related terminal improvements.

The allotments were made in two resolutions adopted by the Special Board for Public Works as follows:

#### RAILS AND FASTENINGS RESOLUTION

Resolved that the Administrator and the Special Board in-

clude in the comprehensive program a project for the purchase of steel rails and fastenings by railroad companies, and allot for that purpose, a sum not to exceed \$51,000,000, for the purpose of aiding by way of loans, the financing of such purchases, subject to the approval of the Interstate Commerce Commission and the execution of contracts satisfactory to the Administrator, between the United States of America and the several railroad companies.

#### PENNSYLVANIA RAILROAD RESOLUTION

Resolved that the Administrator and the Special Board include in the comprehensive program a project for the completion of the electrification of the Pennsylvania Railroad between New York and Washington, for related improvements and for the construction of passenger and freight cars, substantially as described in the application of the Pennsylvania Railroad Company under date of November 1, 1933, and allot for the purpose of aiding in the financing of said project by way of a loan, a sum not to exceed \$84,000,000, subject to the approval of the Interstate Commerce Commission in so far as such approval has not heretofore been obtained, and subject to the execution of a contract satisfactory to the Administrator, between the United States of America and the Pennsylvania Railroad Company.

Approval of the allotments of \$135,000,000 as representing the first activity of the P.W.A. under the section of the national industrial recovery act authorizing the President to aid in the financing of railroad maintenance and equipment was announced to the press by Secretary Ickes and Col. H. M. Waite, deputy administrator of the P.W.A., with a great appearance of elation as to the prospects for including in their "comprehensive program" projects which promised to effect immediately such a wide distribution of employment and business.

On the same day the War Department had issued a press statement showing that during the week ended October 23 the total number of men employed on river and harbor and flood control projects, for which a total of \$209,000,000 had been allotted from the P.W.A. funds over a period of many weeks, was only 26,075, of which 13,898 were employed on hired labor work and 12,177 on work being done by contract.

#### The Pennsylvania Project

The Pennsylvania application classified the proposed expenditures as follows: Roadway equipment, \$39,550,000 by the end of 1934 and \$5,000,000 in 1935; 132 electric locomotives, \$16,525,000; 23 multiple-unit passenger cars, \$1,087,000; projects allied to electrification, \$5,402,477; 7,000 freight cars, \$16,000,000; total, \$83,864,477.

The freight cars include 500 box cars equipped with auto loaders, 500 flat cars and 5,000 other box cars of two types, to be built in company shops to supplant an equal number of older cars which will be dismantled. Construction is to begin immediately and continue at a uniform rate until toward the end of next year.

The locomotives include 28 passenger, 60 freight, 14 switching, and conversion of 24 freight locomotives and 6 switching locomotives from D.C. to A.C.

The \$39,550,000 roadway equipment item includes work on right of way, freight and passenger yards, substations and switching stations, and is sub-divided as follows: Electrical materials and equipment, \$15,580,000; contractors' material, overhead, fees, \$1,710,000; contractors' labor, \$5,430,000; telephone and signal system labor and supervision, \$4,520,000; real estate, etc., \$2,300,000; electrical labor and supervision, \$1,790,000; engineering and superintendence, \$4,000,000; purchasing agent and stores expenses, \$500,000; work trains and division expenses, \$1,350,000; electrical material fabricated but not paid for, \$2,000,000. The allied projects include \$2,611,097 for improvements to the Baltimore tunnel, \$2,041,000 for the Washington tunnel, and \$750,000 for reconstruction at Elkton, Md. Other



information as to the project was described by the P.W.A. publicity department as follows:

"Reports filed with P.W.A. statistician showed in detail how the money will be spent and pass into thousands of pay rolls in hundreds of communities, carrying out the plan of supplying credit at the bottom and giving the increased purchasing power necessary for recovery. The allotment will not only have its direct effect, but in addition, will permit the great railroad system to release from its own funds large amounts for the purchase of steel rails, shapes, plates, bars and castings, giving tremendous aid to the heavy industries suffering from economic conditions.

"Direct and indirect employment will come to approximately 18,000 persons as a result of the Pennsylvania allotment alone. Work can be started within two weeks after the transfer of funds and it is anticipated that immediately thereafter, 2,600 men would be directly engaged by the railroad. Within a comparatively short time the full effect of 18,000 resulting jobs on the road and industry will be reached and sustained throughout the full period of construction.

"Major expenditures will come this year and in 1934, with but \$5,000,000 remaining to be expended in 1935, according to the preliminary schedule worked out to comply with P.W.A. policy of quick action. There will be an even distribution of monthly expenditures throughout the next year which may materially assist in maintaining uniform employment.

"Work will blanket the Nation because of employment resulting from the allotment in mines, shops, factories, forests, mills and other industrial centers.

"The incomplete work on the electrification program, according to reports to P.W.A. is as follows:

(1) Fabrication and placing of approximately 2,500 towers to carry the overhead wiring in addition to the 1,800 already in place. Placing of the overhead wiring between Wilmington and Washington and construction of sub-stations to supply the current for those wires.

(2) Construction of electric passenger locomotives and freight locomotives sufficient for the section of road not yet electrified. The present number of electric passenger locomotives and multiple-unit cars is only sufficient for the present electrically operated sections between New York, Wilmington and Paoli.

(3) Changes of line at Elkton, Maryland, to eliminate grade crossings, curvature and hazards of operation and provide a 4-track connection where a 2-track connection previously linked separate 4-track sections.

(4) Improvements in clearance and roof conditions in the present Union Tunnel through which the line passes leaving Baltimore en route to Philadelphia. A new double-track tunnel of enlarged dimensions is contemplated and upon its completion the present double-track tunnel may be relined and placed in service as single track line, thus giving three tracks all signaled for movements in both directions through the tunnels.

(5) Reconstruction of the Virginia Avenue tunnel in Washington owned by the Pennsylvania Railroad System, but jointly used with the B. & O. to give necessary clearance for electrification and permit car units of large dimensions to move through the tunnel without rerouting around Washington.

(6) Construction of additional electrification facilities to complete electric freight operations to Washington and Potomac Yard (Alexandria, Virginia) which requires major expenditures in New York and Philadelphia terminal zones and minor outlays at intermediate points.

"A time schedule for expenditures indicated \$2,500,000 would be used before December 1 on the various types of work involved. The schedule then steps up to \$4,500,000 for December, 1933, and goes forward to a practically uniform rate of approximately \$6,000,000 during the twelve months of 1934, with slight variations caused by season and other conditions. The peak will be passed by New Year, 1935, with dwindling expenditures of approximately \$1,000,000 a month during the early part of 1935 before the work is completed. This

schedule is not rigid, but is based on the best engineering estimates obtainable.

"At least 60 companies will receive orders giving them increased pay rolls for their staff in supplying materials and equipment for the work. These companies are scattered all over the country and some will receive orders that will give employment in several of their plants."

Exhaustive data on the financial structure, revenues, expenses and other information concerning the railroad was supplied to the Public Works Administration by the Reconstruction Finance Corporation. Examination of this information showed the Public Works Administration could be satisfied as to the terms of the loan contract which is still to be worked out.

The Public Works Administration has offered the Pennsylvania a proposed contract including the terms to be applied for the loan. It was stated that consideration is still being given to the question as to how far the labor restrictions of the public works section of the national industrial recovery act are applicable to such loans.

The first of the railroad applications for approval by the Interstate Commerce Commission of the purpose of the proposed loans for the purchase of rails was that of the Chicago, Milwaukee, St. Paul & Pacific, made public by the commission on November 8. It asked authority to issue \$1,818,750 of ten-year promissory notes, at 4 per cent interest after the first year, to the United States government, for the purchase of 50,000 tons of rail to be used in main line for replacement, and for commission approval of the purpose for which the proceeds are to be used. It also said that another application would be made to cover about 19,000 tons of fastenings to go with the rail after the price for fastenings has been determined.

Co-ordinator Eastman has been receiving revised figures from the railroads as to the quantity of rail and fastenings they will take now that the rail price has been determined and his organization has been working for some time on the method of allocating the orders. It is understood that there may be considerable differences between the final figures and the tentative commitments, which were made public by Mr. Eastman some time ago, because some of the latter were contingent upon a price of \$35 a ton and also because there has been some change in business conditions since the matter was first discussed.

## Eastman Asks Views on Transportation Legislation

WASHINGTON, D. C.

CO-ORDINATOR Eastman, who in a recent speech expressed the fear that he might "almost be called 'Questionnaire Joe'" before he gets through, is asking for something like a popular referendum on the burning question as to what sort of federal transportation legislation he ought to recommend, through the Interstate Commerce Commission, to the President and Congress next year, in fulfillment of an important part of the task imposed upon him by the emergency transportation act.

Although unable to reach everyone by a questionnaire on this subject he has announced, through the press, as briefly reported in last week's issue, his desire to elicit from interested shipper and trade associations, or-

ganizations of transportation agencies, boards of trade, chambers of commerce, etc., and individuals, such comment, together with pertinent factual data, as they may care to make, on any or all of 27 specific questions relating to the subject—questions such as: "Should rail, motor, and water transportation enjoy equal opportunities of competition" and whether such equality, if it is to be sought, should be brought about by applying the present degree of federal rail regulation to motor and water transportation, by releasing the railroads from much of the present federal regulation, or by a medial course of somewhat relaxing rail regulation and applying to the others a comparable degree of regulation.

The railroads have already indicated their position as to most of them in the program submitted last year to the National Transportation Committee ("Coolidge Committee") by the Association of Railway Executives, which has also more recently submitted it with some few changes to the federal co-ordinator. Most of the organizations whom he has invited to reply have also probably expressed themselves on many of the points involved in one way or another and in response to other questionnaires, but not in as clear-cut and specific a manner as is called for by Mr. Eastman's questions. Definite replies to the queries would give a categorical shipper and public answer as to what is thought of the railroads' legislative program as well as of other legislative proposals that have been discussed.

Any groups or individuals desiring to respond to these questions or on any other significant matter, are urged to do so at as early a date as possible and not later than December 1. Comments may be in the form of a letter or brief and briefs may be in printed, mimeograph or typewritten form.

The Co-ordinator welcomes a discussion of all or any of the matters embraced in the following list of questions or of any other matters pertaining to federal transportation legislation.

#### A

##### REGULATION OF COMPETING FORMS OF TRANSPORTATION

1. Should rail, motor and water transportation enjoy equal opportunities of competition in so far as Federal regulation is concerned?
2. Should equality of opportunity, if it is to be sought, be brought about (a) by applying to motor and water transportation the present degree of Federal rail regulation, (b) by releasing the railroads from much of the present Federal regulation and leaving all agencies largely free of such regulation or (c) by somewhat relaxing present Federal rail regulation and applying to motor and water transportation a comparable degree of Federal regulation?
3. Assuming no similar regulation imposed on motor and water transportation, should Section 6 of the Interstate Commerce Act be modified to permit railroads to make changes in rates, fares and charges on not less than 5 days' notice where deemed by them necessary to meet competition of unregulated carriers?
4. Assuming no similar power over rates of motor and water carriers, should Section 15, paragraph 7, of the Interstate Commerce Act be modified to exclude the Commission's power of suspension whenever rate changes are filed to meet competition of unregulated carriers?
5. Assuming no similar power over rates of motor and water carriers, should Section 15, paragraph 1, of the Interstate Commerce Act be modified to remove the Commission's power over minimum rail rates in relation to the competition of unregulated carriers?
6. Assuming no similar inhibition on motor or water carriers, should Section 3 of the Interstate Commerce Act be modified to permit the establishment of special competitive commodity rates on such commodities and at such locations only as deemed necessary to meet the competition of unregulated carriers and independently of rates on similar commodities between the same points or of rates on the same or similar commodities between other points or territories?
7. Assuming no similar restriction on motor or water carriers,

should Section 4 of the Interstate Commerce Act be repealed, retained as at present, or modified in the direction of either more rigidity or more flexibility?

8. Should those paragraphs of Section 5 of the Interstate Commerce Act commonly known as the Panama Canal Act be repealed?

9. Should the Inland Waterways Corporation Act, as amended May 29, 1928, be amended so as to permit the railroads and persons connected with the rail carriers to acquire by purchase or lease any of the facilities of the corporation upon the giving of satisfactory assurance that such facilities bought or leased will be continued in common-carrier service?

10. Should Section 16, paragraph 3, sub-sections (a), (b), (c) and (d) of the Interstate Commerce Act be amended by reducing the time limits for the filing of claims for overcharges, for the filing of suits for reparation and for the filing of carriers' suits for recovery of their charges, and if so what new periods should be fixed?

11. Should Section 16, paragraph 2, of the Interstate Commerce Act be amended to eliminate the part thereof which provides for the award of attorneys' fees to the shipper?

12. Should Section 8 of the Interstate Commerce Act be amended to limit the recovery of reparation to complainants proving actual pecuniary loss?

#### B

##### CO-ORDINATION

1. What are your views as to the desirability of the co-ordination of all agencies of transportation?
2. If the railroads should undertake such co-ordination, should they perform all service under their own auspices or should co-ordination be effected through the co-operative effort of rail and independent motor, water and air operators, as through mandatory joint rates?

#### C

##### REGULATION OF INTERSTATE MOTOR CARRIERS

1. Should interstate motor busses and/or trucks be regulated by the Federal Government?
2. In the event of such Federal legislation, what matters and types of carriers (common, contract or private operators transporting their own goods) should it embrace?
3. Should such legislation provide for the regulation of the sizes and gross weights of motor vehicles and combinations thereof, or should these matters be left to the regulatory agencies of each state? In either event, have you any definite recommendations to make with reference to maximum permissible lengths and gross weights?
4. What are your views with reference to providing for compulsory public liability and property damage insurance or bond in any Federal Legislation enacted pertaining to motor busses and trucks?
5. What legal authority exists under which the Federal Government could enact legislation to regulate contract and private motor operators?
6. Should those who use public highways for commercial purposes bear the cost of any added thickness and width of the highways required by the operation thereon of large commercial vehicles?

#### D

##### REGULATION OF DOMESTIC WATER LINES

1. Should the Federal Government regulate domestic water lines?
2. In the event of such regulation, what matters and what types of carriers should it embrace?
3. In the event of such regulation, by what Governmental body should it be administered?
4. Should tolls be charged for the use of inland waterways made navigable and/or maintained at public expense?
5. What legal authority exists under which the Federal Government could enact legislation to regulate contract and private water carriers?

#### E

##### RELATIONS OF INDUSTRY TO TRANSPORTATION

1. Should the present commodities Clause (Sec. 1, par. 8, Interstate Commerce Act) be modified to forbid by specific enactment the ownership of railroads by industries?
2. Should either the present or the broader commodities clause suggested in 1, above be made applicable to water carriers?



# R. B. A. Holds Annual Meeting

Hon. Joseph B. Eastman and Carl R. Gray speakers at dinner—  
Over 1500 railroad men attend

**A**DDRESSES by Joseph B. Eastman, federal co-ordinator of transportation, and Carl R. Gray, president of the Union Pacific, on the railway situation and transportation regulation were presented at the twenty-fifth annual dinner of the Railway Business Association at Chicago on November 9. At the annual meeting during the afternoon resolutions were adopted and officers were elected. Those elected were as follows: President, Harry A. Wheeler (re-elected); vice-presidents, William C. Dickerman, president of the American Locomotive Company, New York; William B. Given, Jr., president of the American Brake Shoe & Foundry Company, New York; George H. Houston, president of the Baldwin Locomotive Works, Philadelphia, Pa.; Charles R. Robinson, vice-president of the Inland Steel Company, Chicago; George W. Struble, vice-president of the Bethlehem Steel Company, Bethlehem, Pa.; George E. Scott, president of the American Steel Foundries, Chicago, and honorary vice-president, Alba B. Johnson, formerly president of the association. The present members of the Board of Governors were reappointed by the president, George E. Van Hagen, president of the Standard Forgings Company, Chicago, being newly appointed.

The following is an abstract of the resolution adopted by the association:

"The railway equipment and supply business is peculiarly a durable goods industry. It desires sincerely to reopen its plants and return its hundreds of thousands to profitable employment, but its operations are for the most part highly specialized and its activities cannot well be extended beyond the field of serving its best and in some instances its only customer, the railroads.

"Because railroad buying is the largest single medium available for assembling quickly a substantial volume of demand for durable goods, it offers today the surest means of stimulating activity over a nation-wide area in the heavy industries. These purchases cannot be made through the use of current or short-time credit. The lack of confidence of the investing public together with the complexities of the new securities act prevent the distribution of long-term obligations. The National Industrial Recovery Administration made provision that loans might be made 'to aid in the financing of such railroad maintenance and equipment as may be approved by the Interstate Commerce Commission as desirable for the improvement of transportation facilities.'

"In the face of the emergency that admittedly exists, the Railway Business Association, in annual meeting assembled, expresses its appreciation of the definite action already taken by the Public Works Administration in setting up the general terms of loans for railway uses and expresses the hope that with the co-operation of the federal co-ordinator and the Interstate Commerce Commission, contract terms and conditions may be speedily agreed upon under which the funds authorized to be loaned may be made available, and that the railroads will severally set up programs of useful purchases and replacements that will indicate to the public their willingness to co-operate with the administration in its serious endeavor to break the depression and usher in

a period of confidence and faith in our national future. The Railway Business Association pledges its fullest co-operation to the railroads and to the federal administration in developing and carrying into effect a balanced program of industrial recovery."

Abstracts of the addresses at the dinner follow:

## Co-ordinator Eastman's Address

Joseph B. Eastman, federal co-ordinator of transportation, described somewhat more in detail than he has heretofore done the work being done by his Section of Purchases and also discussed the terminal inquiries being made by his organization and railroad committees at Chicago and other western cities. He pointed out that the work of his regional directors, in searching for possible economies in co-operation with the railroad Regional Coordinating Committees, is "hard and ungrateful" because the labor restrictions in the law stand in the way of early accomplishment so that it has become "largely a search for what might be done, were it not for those restrictions." He also included what he called "some philosophizing on the general railroad situation."

By way of introduction Mr. Eastman said that in the past he had seemed to detect a tendency on the part of the railroads and the manufacturers of their equipment and supplies to think alike on topics of mutual interest, but that more recently he had discovered that this rule, like most rules, has its exceptions. "There have been evidences, for example, of some slight differences of opinion on the subject of the present need of the railroads for new locomotives and cars. No doubt this is the natural difference of perspective between the seller and the buyer, but it has been very illuminating and helpful to me, because it is through such clashes of opinion between well-informed men that the truth is most readily brought to light.

"While I am on this point, let me say that although authorities differ, as they usually do, on how we got into the present depression and how we are to get out, they appear to be in very general agreement on one matter, and that is the critical condition of the so-called heavy industries which make capital goods and the essential need of bringing these industries into activity. In the past the railroads have been among the most important customers of these establishments, and particularly those which make iron and steel products. If the railroads could begin buying again in some volume, it would reduce unemployment where it is most acute and have a healthful effect on the entire situation. The government stands ready to help the railroads do this by providing funds on liberal terms, where such a loan can be reasonably secured, and I trust that they will be able to take advantage of this opportunity.

"In saying this I do not mean that the railroads should borrow money, even on liberal terms, for what they do not need. They have a crushing load of debt as it is, and it could be of no real and lasting help to the general situation for them to go deeper into debt, unless they can thereby increase or protect their earning power,

either by improving their service and attracting more traffic or by lowering their expense of operation or by preserving their property from deterioration. I do believe, however, that if they will take less counsel of their fears and look more closely into the state of their properties and the operating facts, they will find quite a number of such opportunities. My organization has been going quite carefully into the equipment situation, and I think I can say that it will soon be able, if it is not now, to indicate where some of these opportunities may lie."

Passing to the work of the Section of Purchases, he continued:

### Opportunities for Economy in Purchase

My Section of Purchases, as its name indicates, has the job of promoting economy in railroad purchases. It is endeavoring to apply principles which have been successfully applied in some of the largest industries outside the transportation field and also by individual railroads, and upon which central railroad organizations, like the American Railway Association, have for some time been working. The Section is made up of practical and experienced men whose chief aim it is to co-ordinate effort, and speed up action along these lines. It has established and is maintaining contact with the committees, divisions, and organizations which are interested in this subject in the railroad, supply, and professional fields, and has met with an encouraging response. It is not undertaking technical work on its own account, but is drawing on the expert knowledge and experience of men in and out of the railroad industry for such technical help. We believe that the application of these principles in co-operation by all the units in the railroad industry offers large opportunities for greater economy and efficiency, although it may trespass somewhat on certain more individualistic aspirations.

The principles of which I speak may be briefly described as standardization and simplification of types and practices. By simplification is meant reduction in unnecessary variety. The director of the Section tells me that the work has progressed far enough to establish certain specific opportunities for economy, and I shall summarize these in his own language:

1. Simplification of numerous kinds of railroad equipment, materials and supplies, where it is clear that such action will save money, either by reducing the cost of producing the item or by reducing the cost of its application in use, including the expense of storing, handling, and distribution.
2. Establishing appropriate "measuring sticks" for gaging the efficiency of the purchases and stores departments of the railroads.
3. Developing uniform methods of cost and other accounting, so that direct comparisons may be made of the numerous operations involved in procuring and applying railroad material.
4. Better co-ordination of the work of existing committees and other organizations, both in and out of the railroad industry, for the purpose of avoiding duplication.
5. Establishment of some form of central technical or engineering organization serving all of the railroads, to work continuously on such matters as the investigation and testing of new materials, devices and methods, the promotion of standardization and simplification of physical items and practices, and the investigation of possible economies to be gained through consolidated inspection and testing and through more economical transportation and handling of raw materials.

### "Incarnations of Jesse James"

If I may add a word in my own language, it should be clearly understood that in this standardization and simplification we contemplate no freezing process which will retard the development of the art of railroading. Under present conditions nothing could be worse. The standards adopted must always be open to improvement, and the whole plan looks toward an intensification of centralized research along these lines. Another matter of great interest to me in connection with purchases is the use of the so-called "traffic club" to force the sale of particular materials and supplies. Knowledge of this practice is easy to obtain but proof is difficult. I understand that there are certain incarnations of Jesse James who sell to the railroads in this way. It would be well for the railroads to band together in a Vigilance Committee to root out this evil, and I think it would also increase their self-respect.

Turning to the phase of the work which is of peculiar interest to the Chicago district, Mr. Eastman referred to his three regional directors, who operate in close contact with the carriers' Regional Co-ordinating Commit-

tees. The duty of these committees is to search out means of eliminating waste and preventable expense, particularly through joint action and co-operation of the railroads with each other, by unification of terminal operations, joint use of facilities, the pooling of services and traffic, the elimination of wasteful routing, and the like. The duty of the regional directors is to promote and check up on this work.

"The thing which makes this work hard and ungrateful," Mr. Eastman said, "is the fact that the labor restrictions in the Act stand in the way of early accomplishment. It has become largely a search for what might be done, were it not for those restrictions, and this gives it an academic flavor which dampens the enthusiasm of practical railroad men. It is not hard to understand or to sympathize with the labor restrictions under present conditions. Nor is it hard to understand why the railroads have little zeal for what now seems to be vain effort. For my own part I believe that the search is highly desirable and will not be in vain, for it is quite evident that the good health of the railroad industry, in view of the difficulties by which it is confronted, requires the most economical and efficient operation which is possible." He continued:

### V. V. Boatner in Charge of Terminal Inquiry

Among the projects to be studied, none are more important than the unification and simplification of terminal operations at the larger centers, and nowhere is this a more important problem than in the Chicago district. There have been any number of studies and reports on that situation, but not much in the way of concrete results has been accomplished. Consideration by a strictly railroad committee is made difficult by the large number of railroads involved. My western regional director, whom many of you know, is a practical railroad man with much experience in terminal operations. With the acquiescence and approval of the carrier co-ordinating committees, he has assumed direct charge of the terminal inquiry, not only at Chicago, but also at St. Louis, Kansas City, Omaha, and the Twin Cities, working in each instance with a special committee of three railroad officers whom he has personally picked for the purpose.

These studies are intended to develop what it is possible to do, very largely with the facilities which now exist, in the way of greater economy and efficiency in terminal operations, if the carriers will only co-operate with each other. The studies will not embrace ambitious schemes requiring a large outlay of capital, although they will not preclude the consideration of such plans in the future if the need for them should arise. Nor will they preclude the greater use of trucks in terminal distribution. On the contrary the possibility of such use will be kept in mind. The object will also be to develop plans which will not be dependent upon system consolidations of carriers, although it may be that they will require the organization of a unified terminal company. The hope of good results lies in the fact that the carriers are approaching these inquiries from a point of view somewhat different from that which has prevailed in the past. It is, I believe, a less individualistic point of view. They begin to see that what is good for the railroads as a whole may also be good for them individually, and that it is possible to trade in advantages and disadvantages.

### Railroading Still Holds Opportunities

I come now to the philosophizing on the general railroad situation. The railroad industry in this country is more than 100 years old. It has gone through wars and innumerable other vicissitudes, including economic depressions, floods, droughts, reckless and ill-advised construction, and the highest of high finance. Yet it is still going strong. That there are present railroad troubles, and very disturbing troubles, is certain, but it is quite unnecessary to jump to the conclusion, as some apparently do, that railroad transportation is obsolete and doomed to speedy oblivion. I have even heard railroad executives say that they would not want their sons to go into the business. While there may be good reasons why the sons should not go into the same business as their dads, it is not, to my way of thinking, because the railroad business holds forth no opportunities. On the contrary, there has not for a long time been so excellent an opportunity for railroad executives to make their marks through enterprise, energy, persistence and brains.

The railroad industry is going through one of its periodic crises, a crisis which this time is heightened by the coincidence of economic depression and new competitive conditions. The



truck, the bus, the private automobile, the airplane, the pipe line, the electric transmission line, the waterway—they are all here, they are here to stay, and they make a formidable array. They may well cause the railroads to gird up their loins, yet I see no reason why they should strike panic in the railroad breast. Movement by train on steel rails over a low-grade line still has the call on a vast amount of traffic, and most of the other transportation agencies can function as auxiliaries and allies as well as in the role of enemies. Instead of striking terror, these new rivals should stir the pulse of creative genius. "Sweet are the uses of adversity." The leaven is beginning to work, and if I size up the situation at all correctly, we are on the very threshold of striking improvements in railroad equipment, service and methods.

### Regulation Involves Divided Responsibility

Industries often face the need of regeneration, but it takes a severe jolt to start the process going and prevent a drift into senility and decay. Public regulation of railroads, of which I have been a part for some years, has been a target for much criticism, and it is chiefly accused of depriving the railroads of adequate revenue by keeping rates on too low a level. My own belief is that the railroads have suffered more from rates and fares that were too high than they have from charges that were too low. On the other hand there is a danger in public regulation which is not often mentioned, but which is very real. I refer to the division of responsibility between the managements and the government. When a regulated industry gets into difficulties, it is easy for the managements to impute the blame to the government and to look for relief to the regulators or to a change in laws. An unregulated industry knows it must be the author of its own salvation, and proceeds to find the way out. This is not said by way of defense of public regulation, for it has had its shortcomings. The point is merely that the division of responsibility produces unfortunate results.

### The Core of the Railway Industry Is Sound

There is much in the railroad industry which is obsolete. There will be capital losses and reorganizations, just as there have been in the past and just as there have been and will be in other industries. But the core of the railroad industry is sound, and it can pass through this crisis as it has passed through the many other critical periods of its history, and regenerate to a point where it can give the country better service than it has ever given before, and service which is fitted to modern needs.

Railroads have too often suffered from financial exploitation, but for the men, from the bottom up, who actually run the railroads, I have always had much respect, and recent contacts have increased that respect. They have gone through experiences in recent months which sap courage and vitality; but the same may be said of practically every industry in the country and the men who run it. I suggest that the time has come for a rebirth of enthusiasm and zeal, to unleash enterprise, and to forget the troubles which lie behind in the vision of the opportunities which lie ahead.

### Other Transportation Agencies

I have been speaking of the railroads, because you are primarily railroad men, and not because of any disregard of the other transportation agencies. They have their place, and from the standpoint of the general good nothing could be more unsound than to promote the railroad industry at their expense in violation of principles of economy and efficiency. The country needs the best and cheapest transportation that any agency can supply. It is right to examine into the actual net economy of transportation which involves large expenditures of public funds, but it is wrong to strike at any form of transportation which can show such actual net economy, for the sake of helping another. The end to pursue is a transportation system which will make use of each of the various agencies for the purpose to which it is best adapted, and cut out duplication and waste. We may never reach that ideal, but at all events it is certain that in many instances these other transportation agencies can be used in co-ordination with railroad service to the great advantage of all concerned.

The Federal Co-ordinator of Transportation has a temporary place in the picture. Just at present he must seem to the railroads like a pestiferous small boy, because his staff is continually asking questions. We hope to obtain certain definite and concrete results, in large part through those questions, but even if we were to stop short with the asking of them, they would serve a very useful purpose. Interrogation is a process which is most stimulating to thought, as Socrates found out centuries ago. In the very answering of these questions, the railroads are going to think a good deal and learn a good deal.

But the function which the Co-ordinator is undertaking to perform goes far beyond that. The railroad industry is more than a collection of railroads, just as the human body is more

than a collection of cells. There are certain things which should be done collectively by the industry, because they cannot be done as well by the individual units. The industry is organized, but rather loosely and ineffectively in certain respects. For the time being the Co-ordinator, aided by the prestige of the federal government, can supply those deficiencies of organization to some extent. He can concentrate attention and effort on important problems which concern the entire industry.

It may be that when his temporary authority ceases, he can be supplanted by a more effective internal organization of the industry. But it must not be forgotten that transportation is much more than a private industry. Many individuals have their money invested in it; many other individuals have their lives invested in it; but it is also affected with a very vital public interest, because only through transportation is it possible for other industries and the entire country to function under modern conditions. Investors, labor, shippers, and the general public all have what amounts to a partnership interest in transportation, and some of these interests can be adequately represented only by the government. I hope to see the partnership spirit develop, and it is not unlikely that the temporary work of the Co-ordinator will show ways in which the government can play a permanent part in such an organization and direction of the industry.

It is a mistake to arouse anticipations which it may be impossible to fulfill. For that reason I prefer to voice hopes rather than predictions as to what the Federal Co-ordinator of Transportation may be able to accomplish which will be of permanent value. I can say, however, for myself and for every member of my organization, that if nothing is accomplished, it will not be for lack of trying. And I can also say that it will not be for lack of substantial co-operation on the part of the railroads, the supply industry, the other transportation agencies, the shippers, labor, the commission, and other federal and state authorities.

## Regulation of Transportation

By Carl R. Gray

In his Salt Lake speech President Roosevelt, whose grasp of the transportation situation is amazingly accurate and constructive, said: "I do not share the opinion which has been aired recently that the railways have served their purpose and are about to disappear." And again, "The problem of the railroads is the problem of each and every one of us. No single economic activity enters into the life of every individual as much as do these great carriers."

The President then proceeded to outline certain fundamental bases for the legislation through which would be established the essential elements of a national system of transportation. Certain of these bases affect the rail carriers only; others, the whole field of transportation; all are constructive and have been accepted by students of rail operation. Briefly, the President proposed: 1—"That the Government announce its intention to stand back of the railroads for a specified period, its help being definitely conditioned upon acceptance by the railroads of such requirements as may in individual cases be found necessary to readjust top heavy financial structures through appropriate scaling down of fixed charges."

### Government Loans to Railroads

The last Congress passed a bill to avoid the tortuous progress of equity receiverships and in lieu provided through bankruptcy proceedings a very much simplified and less complicated method of financial reorganization. Of course, when the President expressed the intention to stand back of the railroads he meant the advance of money through loans to bridge over the critical period. To September 30, 1933, the total of loans to railroads authorized by the Reconstruction Finance Corporation amounted to \$411,701,426, of which \$382,326,102 has been disbursed and \$50,211,895 has been repaid, cancelled or withdrawn.

Contrary to the popular belief this was not without precedent. Following the return of the railways to private control in 1920 the Government loaned to individual railroads a sum aggregating \$1,080,000,000, all of which has been repaid but \$38,925,000. Practically all of this residue will ultimately be collected. Even if it should never be repaid the Government still shows a profit on the transaction, because the railroads paid \$216,000,000 in interest at 6 per cent, which is considerably in excess of the cost of this money to the Government. With exceptions so rare as to prove the rule, every railroad loan made for the Government by the R.F.C. is amply secured to safeguard its return with interest. And the other conditions specified by the President with respect to reorganizations of capital structures are now operating in a number of instances, and conditions have been created by Congress to cover all possible cases contemplated by him.

He proposed: 2—That so-called railroad holding companies should be definitely put under the regulation and control of the Interstate Commerce Commission in like manner as railroads themselves. This purpose is fully accomplished under the Emergency Railroad Transportation Act 1933, Title II, Amendments to Interstate Commerce Act, Sec. 202, paragraph (6).

### Consolidations

The President again: 3—Proposed consolidations of railroads which are lawful and in the public interest should be pressed to a conclusion. There should be clearer definitions of the objects, powers and duties of the Commission in safeguarding all "those who have invested their money or their lives in the service of railroads, those who are dependent upon its service to buy or to sell goods, those who rely upon it for the preservation of communities into which they have built their lives."

There is nothing new or novel about consolidations. Every large railroad system as it exists today is the result of consolidations. Until virtually prohibited by the Transportation Act of 1920, consolidation had made consistent progress. That in recent years it has been largely stopped must in all fairness be attributed to that feature of the law which required the Commission to provide a plan, and which required consideration in a wholesale way.

With all deference to the exponents of rigid plans, I still entertain the reasoned opinion that this is not the proper method of approach. Consolidation can best be accomplished by freeing the carriers of limitations, allowing them to bring to the Commission any consolidation which they may care to accomplish, and the Commission, vested with full power to pass upon and approve or reject such consolidations in whole or in part as they conceive them to be in or against the public interest. I do not believe we have reached a point where compulsion is either necessary or desirable until this reasonable method has had a fair opportunity to demonstrate its practicability. The Commission itself has repeatedly urged repeal of the requirement for a plan, and has clearly recognized its limiting and restrictive effects.

### Elimination of Non-Paying Mileage

Again quoting the President: 4—"The I. C. C. should be relieved of requiring competition where traffic is insufficient to support competing lines, and elimination of non-paying mileage wherever the transportation needs of the community affected can be otherwise adequately met."

This is another way of saying that it is inequitable to impose upon the whole body of patrons the preservation of mileage which cannot support itself. This is a difficult and involved problem, although it is unquestionably a fact that the national railway system would become healthier through the elimination of unprofitable lines. But this is a power which must be considerably administered. Communities, even cities and states, are directly involved. And here, too, there is the human equation in its results upon the employees and countless others.

I sometimes think there are only two periods in which a railroad is fully appreciated; one is before the line is built; and the other, and more tragic period, is when after individuals and communities have made their life investment the line is to be abandoned through the failure of patronage.

### Regulation of Motor Carriers

The President further said: 5—"I advocate the regulation by the Interstate Commerce Commission of competing motor carriers. Where rail service should be supplemented with motor service to promote the public interest, the railroads should be permitted in this manner to extend their transportation facilities. Indeed, they should be encouraged to modernize and adapt their plant to the new needs of a changing world."

With the rail carriers aside, two elements are directly concerned in this question: first, the shipping public, and second, the highway carriers. As to the former, I believe that a fixed standard of transportation rates is a fundamental business necessity. Regulation of rail carriers grew out of this necessity. The discontent then was concerned with rates which were preferential as between individuals, commodities, and communities. It is of prime importance to a shipper that in figuring the cost of goods on the shelf or in the warehouse he be certain that a competitor has no secret or other advantage in this respect. In the past this was true. So far as transportation by rail is concerned this is still true. But it is no longer true as a business proposition, because of the uncertainties and instability of highway and water rates. It is no exaggeration to say that there exist today, via highway, all of the conditions with respect to instability of rates, discriminations, and preferences which, when indulged in by the railroads, resulted in passage of the Interstate Commerce Act.

I believe that no one cause contributes more to the present

business confusion; and I do not believe that business men relish this situation now any more than they did a similar condition before railway regulation was adopted.

As to the highway carriers themselves, I could not understand their antipathy to regulation if I had not witnessed the same opposition on the part of the rail carriers, themselves, years ago, for the bald fact remains that as a class, and in existing circumstances, they are not making money. Ordinarily they have no conception that they are dealing in a commodity which, though not literally, is actually vested with a public interest. In a majority of cases they are inexperienced in transportation and do not know how to figure costs. Regulation would save them from themselves, would give them identity and standing. The requirement of a certificate of public convenience and necessity, it seems to me, is essential in their own interest. A minimum rate would make them stable financially and therefore dependable.

That there is a sphere in which these carriers can operate with profit alike to themselves and to the shipper must be admitted. So long as anyone without experience, financial responsibility or means can enter the business without let or hindrance they will not be even reasonably safe business risks. There can be no co-ordination without regulation, and such certificates, because there would be no way by which highway carriers could have a concerted voice.

Having demonstrated, to my own satisfaction at least, that regulation of highway carriers is a necessity to both the shipping public and to those carriers, themselves, there remains the question of the governmental agency which should be vested with the administration. Railroad men agree with the President that this should be by the Interstate Commerce Commission. That body has had over forty-six years of experience; it has the confidence of railroads and shippers alike, and in instances is entrusted by Congress with legislative functions. There could not be a proper synchronization of transportation in its different phases other than by a single authority.

Railroad men are also in full agreement with the President that they should be permitted in like manner to extend their own transportation facilities through the employment of highway agencies.

That there is a general, even absorbing, interest in this matter can be further evidenced by quotations from leading business men, business organizations, and by those already entrusted with regulation. Not one of these quotations is from railroad sources.

[Mr. Gray then quoted from a number of public regulatory officers, from shippers and from other authorities on transportation matters in support of his position on regulation.]

### A Bill to Regulate Transportation

In the approaching session of Congress, there should be presented a bill providing for the permanent regulation of transportation. If so, it will be legislation of paramount importance, because it will constitute the first comprehensive treatment of the transportation problem, as distinguished, if you please, from the railroad problem. The railways can be expected to co-operate sincerely and sympathetically in its consideration.

Happily, it is apparent now that there has been a change in attitude of highway carriers in respect to regulation. Organizations, some national in character, have been formed by the larger and more responsible highway operators whose deliberate purpose is to secure federal regulation for their own salvation. Accordingly, it is now evident that there will be a fair degree of co-operation in approaching this legislation, as there should be, between rail and highway carriers.

### Railroads Exemplar of Cheapest Mass Transportation

Railway men have no hallucinations on this subject. They believe that the railways are entitled to special consideration only to the extent necessary to protect their essential integrity as a public necessity. The steam railroads are of vital necessity to this nation, with its great distances and its normally immense and varied tonnages. Notwithstanding the amazing progress of other methods, it is an accepted fact that the steam railroad still stands as the exemplar of the cheapest mass land transportation. The Interstate Commerce Commission in its report in the 15 per cent rate case, released in October, 1931, said: "The railroads now furnish the backbone and most of the other vital bones of the transportation system of the country, and we believe this will be the situation for a long time to come. We are not impressed with the thought that they are doomed in anything like the near future to go the way of the stage-coach and canal."

This is true in peace, and immeasurably more true in war. I feel that I can speak with some authority on this point. If this country should again engage in a major war, particularly if both ocean fronts were involved, our safety would depend not so much upon our precise numerical strength in armed men, guns, and shells, as upon mass transportation capable of the rapid movement of vast quantities of men and material from one front to the other. In the World War Germany's greatest weapon of



offense and defense was her strategically located railways. Absolutely indispensable as they are in peace and war alike, the continued adequacy and efficiency of our railroads is obviously a matter of concern to every good citizen, and not merely to shippers in the individual sense, or to those of us, however numerous we are, who are directly connected with them as owners, officers, or employees, or more indirectly connected as suppliers of their materials and equipment, owners of their securities, or holders of insurance policies and savings bank deposits which are so largely backed by railroad bonds.

### Fear Based on Mistaken Premises

A great deal of the concern which is expressed about the future of the railroads is based upon mistaken premises. The position of the railroads is not in itself alarming. So far as the depression period is concerned the rail carriers face the same conditions as other enterprises,—a greatly lessened business. In the necessity that they maintain a certain fixed service, they do have a definite disability not experienced by business which is not vested with a public interest. On the other hand, they possess unique elements of advantage in that there has been proven to be a stage below which traffic cannot be depressed. The nation must be fed, clothed and kept warm, and in the supply of these vital needs the railroads provide the essential service.

Again, their rate fabric, unlike the commodity price range, remains fairly constant. With restoration of normal times, business in general not only faces the problem of physical regeneration, but also a contemporaneous reconstruction of prices. It is evident, therefore, that the problems of the rail carriers which are distinctly associated with the depression are not in any important respect peculiar to them alone. As they have shared with business the results of the depression, they cannot be denied a participation in the benefits which will result from an increasing tide of business. Their essential need, as I have attempted to demonstrate, with respect to the public generally, and other carriers, is a stability of regulation and a determination, always in the public interest, of their proper economic place in the national transportation picture.

### No Demand for Radical Changes

There has not been voiced any demand for radical changes in the railroad field. Again quoting the President: "I do not favor any government action which will relieve managements from performing their responsibilities. After all, it is well to observe that the actual railway operators are not the owners of the railroads, nor the major users of railway services, and today they only command access to capital on the basis of their ability to protect capital. Their position now depends, as it ought to, on their being able to do their job well. We are entitled to demand, and I think they would be the first to concede, that they give a management which is sound, economic and skillful; that they do not use their positions as financial stewards to further personal desires for gain or power. They are, in reality, public servants; entitled to every assistance from the government, but held to high standards of accountability."

In his debate with Mr. Douglas on August 21, 1858, Mr. Lincoln said: "Public sentiment is everything. With public sentiment nothing can fail; without it, nothing can succeed. Consequently, he who molds public sentiment goes deeper than he who enacts statutes or pronounces decisions. He makes statutes and decisions possible or impossible to be executed."

At the present time, if I sense public sentiment aright, business men everywhere are becoming as concerned over the situation which I have outlined as men were over the very similar condition which prevailed before railroad regulation was adopted. It seems not too much to expect, therefore, that the railroads, their new competitors, and a sound public sentiment may unite to put an early end to conditions which have done so much to destroy that stability of rates and charges which is so necessary to the proper functioning of commercial business.

Under the direction of your honored guest, the federal coordinator of transportation, there is under way an exhaustive study of this question of the proper relationship and sphere of these different forms of transportation, and, knowing his vigorous and analytical mind, a most valuable and helpful recommendation can be expected from him to the Congress and the President.

It is doubtful if any one organization displays a clearer cross-section of business than does your own, and one of the most heartening things which has recently occurred has been the action of your association, acting through your President and his officers, in sponsoring a conference representing a majority of the business interests of this country, for the consideration of this question. Out of this conference will come suggestions of the greatest value, but no findings, however valuable, can be effective in influencing public sentiment unless they are properly disseminated and explained. I invite your active participation in this cause.

## Odds and Ends . . .

### River No Obstacle

A little thing like the Danube river was no obstacle to the German railways in the erection of a new station at Tuttlingen, Wurtemberg. To make room for the station, the bed of the river was moved some miles.

### New Deal for Canadian Brides

No longer will discrimination in favor of June brides, and to the disadvantage of their sisters, be practiced by the Canadian National. The Canadian National steamships are altering all that by extending to autumn brides the same 10 per cent reduction in fares for West Indies trips that have been given in the past exclusively to the pampered June brides.

### A New Idea: Rail-Wheelbarrow Co-ordination

The Missouri-Kansas-Texas has a conscientious and resourceful representative in Agent J. R. Porche at Maxwell, Tex. Instructed to contract with a local drayman to perform the pick-up and delivery operation in the handling of l.c.l. freight, Mr. Porche was unsuccessful in persuading anyone to take the contract. But patrons get their deliveries promptly, just the same. Mr. Porche himself delivers all the light freight on a wheelbarrow. "The customers are satisfied with this service and I enjoy making the deliveries," he reported. No sleeping Porche, this man.

### Before Diets Were Invented

Even fifty years ago, when dining cars were still a novelty, the railroads knew how to lay out a fancy menu. As evidence, we have the following *carte du jour* of the Chicago & North Western for May 15, 1884. Believe it or not, the price of this dinner was 75 cents.

Blue Points on Half Shell		
SOUP		
Torte Verte, au Champagne		Consomme, a la Hongroise
Varies	Olives	Celery
FISH		
Broiled Shad, a la Aurore		Boiled Red Snapper, Oyster Sauce
ROAST		
Leg Mutton, Caper Sauce		Ribs of Beef, Yorkshire Pudding
Turkey, Chestnut Stuffing,		Cranberry Sauce
		Pig, Sage Stuffing, Apple Sauce
Boned Turkey with Truffles		Pate, de Foies Gras
Boned Capon		Dressed Lettuce
ENTREES		
Sweet Bread, Croquettes with French Peas		Cutlets of Lobster, a la Cardinal
		Cocoanut Fritters, Sweet Sauce
GAME		
Canvas Back Duck		Partridge, Game Sauce
		Saddle of Venison with Jelly
Fresh Shrimps		Larded Quail
		Grouse Stuffs
		Mallard Duck
		Roquefort Cheese with Olives
VEGETABLES		
Spinach with Poached Eggs		Baked Mashed Potatoes
Mushrooms		Rice
		Peas
Lobster Salad, a la Celestine		
ENTREMENTS, SAUSES		
Rhubarb Pie		Orange Meringue Pie
Russian Charlotte		Benedictine Jelly
		Strawberry Short Cake
		English Plum Pudding
Assorted Confectioneries		Turkish Cake
		Fruit Cake
		Nonpareil Ice Cream
Macaroons		Angel's Food
Oranges		Malaga Grapes
		Apples
Bananas		Mixed Nuts
Neufchatel Cheese		Confectionery
French Coffee		Chocolate
		Bents Crackers

# NEWS

## Eastman Launches Inquiry as to Locomotive Needs

Questionnaire calls for information  
on condition and capacity  
of steam power

Co-ordinator Eastman on November 8 addressed to the executives of Class I railroads personal letters with which were enclosed copies of a questionnaire calling for specific information covering the description, condition and potential capacity of steam locomotives. The purpose of the inquiry is to secure reliable data bearing upon the needs of the railroads with respect to the retirement, replacement or modernization of their motive power, he said. A secondary purpose is to lay the foundation for more uniform and illuminating records of motive power supply and condition for the guidance of operating officers and the information of regulatory bodies.

The survey calls for a detailed description of steam locomotives, separated by class, age and tractive power, with figures for each series showing original cost and accrued depreciation. In the case of locomotives scheduled for retirement, additional information covering the net salvage value and the retirement charge is required.

The railroads are requested to outline a program based upon the experience and judgment of responsible officers covering proposed retirements and repairs, annually through the year 1938. In determining the retirement program, the railroads are asked to give consideration to the advisability of relieving current operating expenses of charges to "Retirement" by securing special authority from the Interstate Commerce Commission to include such charges in "Profit and Loss." The co-ordinator states that this method has already been adopted by a number of carriers, resulting in the dismantling of a great many cars and locomotives which, by reason of age or obsolescence, could not be economically continued in service.

The questionnaire also inquires into the character and condition of so-called "stored serviceable" locomotives upon which the carriers rely as a reserve to take care of any substantial increase in traffic. The tractive capacity and the potential mileage remaining in the stored units will be reported. A similar statement of locomotives awaiting repairs is requested, separated between types of locomotives and the class of repairs required, with estimates of the cost of repairs.

A combination of these statements will

give the co-ordinator a picture of the maximum potential capacity of the motive power now in existence.

As throwing further light upon the question of economy in maintaining locomotives, repair costs for the various series will be shown with comparison of the service secured over a given period. In computing average costs, both locomotive miles and potential horse-power miles will be used as units.

The executives are also requested to submit any information which they have developed within the past four or five years relating to the merits or economic values of any certain types of locomotives. Replies are requested at the earliest practicable date.

## Meeting of Car Foremen's Association of Chicago

The next meeting of The Car Foremen's Association of Chicago will be held at the LaSalle Hotel on November 13. "Train Delays on Account of Hot Boxes" will be discussed by W. J. McCloskey, general car foreman of the Illinois Central.

## Florida East Coast Proposes Two-Cent Coach Fares

The Florida East Coast has applied to the Interstate Commerce Commission for authority to make effective on December 1 on short notice coach fares at two cents a mile and fares good in sleeping and parlor cars at three cents a mile with no surcharge.

## Fiftieth Anniversary of Standard Time

The eighteenth of this month will be the fiftieth anniversary of the adoption of Standard time in the United States and Canada, and the Official Guide, for the first time, comes out for November with a two-color front cover, the familiar clock faces, showing Atlantic, Eastern, Central, Mountain and Pacific times, being printed in red. It was William F. Allen, editor of the Official Guide and secretary of the railroad conventions which fifty years ago carried on the functions of an American railway association, who accomplished the supposedly impossible task of putting to death the fifty standards of time then in use by the railroads of the country. The complete success of his efforts was recognized at the twenty-fifth anniversary of Standard time, in 1908, by a resolution adopted at the meeting of the American Railway Association, on November 18 of that year. The Official Guide, in 1883, consisted of less than 500 pages. At present, the total number of pages is 1536, including about 25 pages devoted to airplane time tables.

## U. S. Chamber Favors Fair Field in Transport

Proposals for bringing about more  
equitable competition are to  
be pressed

Proposals for bringing about more equitable competitive conditions among rail, water and highway transportation agencies will be pressed by the Chamber of Commerce of the United States as a result of a referendum vote of its membership just ended. On 17 out of 18 recommendations put before the membership in the referendum the votes were decisively in the affirmative.

The only question on which the voting did not give the Chamber a clear-cut position was No. 6, which related to the maximum to be allowed in size and weight of motor vehicles. In favor of the standards put forward by the American Association of State Highway Officials there were 869 votes and against them there were 1082 votes. This vote does not fix the position of the Chamber, which has a rule requiring a two-thirds majority, either for or against, to commit the organization in favor of or in opposition to a proposal.

The Chamber's members not only gave overwhelming endorsement to regulation of highway traffic but also for limitation of gasoline taxes with elimination of the federal levy on gasoline. Thirteen of the questions before the membership related to transportation by highway while five related to intercoastal, coastwise and inland water transportation except on the Great Lakes. Regulation of water transportation was endorsed. The proposals voted upon were as follows:

### Water Transportation in Domestic Commerce

1. All common carriers should be required to obtain certificates of public convenience and necessity.
2. Common carriers should be subject to regulation, as to rates, in port-to-port rates.
3. All vessels which are not common carriers and which accept cargo for hire should be required to charge the established common-carrier rates.
4. Regulation should require that the rates of both water and rail carriers to competitive points should be adequately compensatory to the carriers making the rates.
5. Government operation of commercial water transportation should be discontinued.

### Highway Transportation in Intrastate Commerce

6. Each state should put into effect the standards of the American Association of State Highway Officials as to size, weight and speed of vehicles.
7. Motor busses and other vehicles carrying passengers for hire should pay a special user tax in the form of a mileage tax, graduated according to seating capacity.
8. Motor trucks should pay a special user tax reflecting fairly the demands each makes upon the highways.



9. The gasoline tax should be kept down to a point not encouraging wholesale evasion.

10. The gasoline tax should be levied only by states.

11. States should enter into reciprocal agreements for issuance of special licenses at equitable rates to commercial vehicles out of their home states.

12. Intrastate motor carriers for hire, both common and contract, should be required to obtain permits to operate.

13. Intrastate motor carriers for hire, both common and contract, should, under regulation, be required to file, post and adhere to rules that are just, reasonable and non-discriminatory among shippers.

14. All commercial users of highways should be required to establish financial responsibility for public liability and all common carriers also for liability with respect to passengers and cargo.

15. Safety and fair conditions of competition require that hours of service of operators of commercial motor vehicles on highways should be reasonably limited by public authority.

#### Interstate Regulation

16. There should be the same degree of regulation by Congress of interstate motor carriers as has been recommended to the states for intrastate carriers, as to permit to operate, rates, financial responsibility and hours of service.

17. The interstate regulatory authority should act as an appellate body, with provision for initial delegation of authority to boards of state regulatory bodies from states affected by each case that arises.

18. Section 500 of the Transportation Act of 1920 should be construed as a declaration by Congress of the importance to the public of the major forms of transportation, without preference for rail or water transportation over highway transportation.

### Survey of Florida Canal Project Ordered

The Public Works Administration has instructed the Army Engineers to proceed with a survey to determine the feasibility of the proposed \$150,000,000 ship canal across the southern part of Georgia and northern Florida as a cutoff between the Atlantic ocean and the Gulf of Mexico. The canal would be 160 miles long.

### Storedoor Tariffs Protested

Seventeen railroads in Official Classification Territory, on November 9, filed with the Interstate Commerce Commission their protest against I.C.C. storedoor pick-up and delivery tariffs filed by the Pennsylvania, the Erie and the Grand Trunk, asking Commission to suspend these tariffs and to take action promptly to enable them to meet the competition if it is necessary.

### Thanksgiving Bargain Fares on Southern

Train travel bargain fares being offered by the Southern for the Thanksgiving holiday include one cent per mile rates for round-trip tickets, which will be on sale on November 28, 29 and 30, with a return limit of December 7. These low-rate tickets will be valid for travel on all trains except the Crescent Limited and may be used in Pullman cars in connection with reduced round-trip Pullman rates.

### 768 Carloads of Relief Shipments

The program of the Federal Emergency Relief Administration to raise relief allowances for the unemployed to a more nearly adequate standard has gone forward tangibly in the last 30 days with the shipment of 762 carloads of cured pork, aggregating 23,441,423 lb., to relief administrations in 48 states, the District of Columbia, Puerto Rico, and the Virgin Islands, according to announcement by Harry L. Hopkins, Federal Emergency Relief Ad-

ministrator. The shipments represent the allotments of pork resulting from the swine-buying program of the Agricultural Adjustment Administration to reduce surpluses depressing the swine market. The total allotments to the relief administrations call for the shipment of an aggregate of 3,344 cars before January 1. The pork is being given to the needy on the rolls of the local emergency relief administrations in addition to the relief allowances they are already receiving. The railroads have been asked to carry the shipments at half rates.

### Trucks and Highways

"It is absurd," recently declared Roy F. Britten, director of the National Highway Users' Conference, "to believe that federal and state governments have expended billions of dollars for improved highways to be used for recreation and pleasure only."

The highway users' conference, as it is called, is an organization of those interested in truck and bus transportation for hire. Its purpose is to protect the interests of firms engaged in that work. What Director Britten was trying to say becomes more easily understandable when that is known, but, nevertheless, with all respect to him and to his association, he was talking nonsense. It is nonsense for several reasons. He misstates the case when he speaks of the billions the federal and state governments have spent for highways. The state governments have spent no billions for highways. In most cases they have spent little; in many, as in Virginia, they have spent nothing in recent years. The federal government now is spending no billions; it is spending little if anything. The money is being collected by these governments and the work is being done by these governments, but the money has been furnished by passenger car owners. The money that goes for the roads comes from the pockets of those who buy gasoline for their automobiles and pay city and state licenses to operate them, and the great majority of those are passenger car owners. No one not given to gross exaggeration would intimate that all these passenger cars are used "for recreation and pleasure only". Many of them are used for business, just as many buses are used by those on pleasure and recreation bent.

In short Director Britten's statement hasn't any sense in it at all, to put the case bluntly, but accurately . . . . .

But such statements are not wholly useless. They serve the good purpose of emphasizing the fact that legislators in every state will have to come to grips with this question. Proper regulation and fair taxation of "commercial cars" is something that has already been neglected far too long. It is something the Virginia general assembly should take up in January, if it can spare sufficient time from discussion of beer and liquor.

From an editorial in the Lynchburg (Va.) News.

### Railway Employment Reduced in October

The number of employees of Class I railroads, as reported to the Interstate Commerce Commission, was 1,023,204 at the middle of October. This was an increase of 6,353, or .61 per cent, as compared with the number in October last year, but it was a decrease of 6,950 as compared with the number in September of this year.

### 840 Miles for Five Dollars

The lowest rail fare offered in the western territory in recent years has been established by all lines operating between the Twin Cities, Duluth and Superior, Wis., and Chicago, to encourage travel to Chicago for Armistice Day and the closing of A Century of Progress on November 12. Passengers using this round-trip coach rate of \$5 for the 840 miles of travel leave these northern points on Friday night and return from Chicago on Sunday night.

### Lower Rates in Canada

Canadian railways will meet the competition of the United States lines by reducing winter grain rates between Georgian Bay ports and Saint John, N. B., by 2.6 cents per bushel, effective December 1, and cut passenger tariffs wherever the existing fare levels are higher than those now in force on lines in the United States competing directly with the Canadian railways. This announcement was made by the Canadian Pacific in Montreal last week. Representatives of both the Canadian National and the Canadian Pacific railways will confer shortly on the passenger fare question, particularly as it affects the West.

### R. F. C. Loans To Railroads \$386,955,308

Cash advances made to railroads by the Reconstruction Finance Corporation up to the end of October amounted to \$386,955,308, according to the corporation's monthly report. The advances were made to 61 railroads and 22 of them had made repayments amounting to \$56,798,796. This includes some repayments made by the Railroad Credit Corporation and in addition the Pennsylvania had repaid its loan of \$28,900,000, the Cincinnati Union Terminal had repaid its loan of \$8,300,000 and the Great Northern had repaid its loan of \$6,000,000. Total authorizations, to 67 railroads or receivers, amounted to \$411,701,426.

### I. C. C. Intrastate Rate Order Sustained

The Supreme Court of the United States, in a decision rendered on November 6, reversed the decision of the federal district court for eastern Louisiana, which had issued a decree staying the order of the Interstate Commerce Commission in the fifteen per cent case in which the federal commission had prescribed an increase in intrastate freight rates in Louisiana, on specified commodities, in amounts equal to the surcharge increases in interstate rates on the same commodities. The court held

that the fact that the order for the increase of interstate rates was permissive only did not affect the validity of its order prescribing minimum intrastate rates.

### Bridges Burned in Iowa Farm Strike

Two railway bridges were burned and eight cars of live stock on a Chicago & North Western train were unloaded by 150 Iowa farm strikers last Sunday in an attempt to prevent the shipment of farm products to market. The train, which was headed for the Sioux City market was approached at Pierson and then at Merville, but the engineman ran through the barrier at the latter point without stopping. The pickets preceded the train to Lawton where a large pile of ties placed on the track stopped the train.

On Monday, November 6, a 60-ft. wooden trestle on the Illinois Central at Meriden was burned, presumably by pickets. On the same day a 40-ft. bridge on the Great Northern near James was burned, the cause of the fire not being definitely known.

### I. C. C. to Investigate Cotton Rates

The Interstate Commerce Commission on November 2 announced that on its own motion it had instituted an investigation into the lawfulness of the rates, rules, regulations, and practices applicable to the transportation of cotton, all-rail, between all points in the Southwest, including transportation from points in the Southwest to Gulf ports for export or coastwise movement; and all-rail, rail-ocean, and rail-ocean-rail from the Southwest to points in trunk line, New England, and southern territories, but not including traffic from points on the Mississippi river. This proceeding, together with complaints filed by the Houston Cotton Exchange and Board of Trade and by the New Orleans Joint Traffic Bureau, has been assigned for hearing before Examiners Mattingly and Rice beginning at Houston, Tex., on January 8.

### The C. N. R. in September

A decline of \$1,129,467 in gross revenues for September as compared with the same month one year ago is shown in the monthly report of the Canadian National. The totals are \$14,082,057 and \$15,211,524 respectively. Operating expenses for the month were lower by \$949,380 than the figure for September of last year and net revenues of \$2,058,858 showed a decline of \$180,087 from the net of September, 1932.

Gross revenues of the system were \$108,216,280 for the first nine months of the current year, a decline of \$12,405,179 as compared with the gross for the corresponding period of 1932. Operating expenses were reduced by \$10,710,723 and net revenues amounted to \$907,372, a decline of \$1,694,456 as compared with the same months of last year.

### Employees Protest Removal of Repair Shops

A group of employees of the Colorado & Southern who will be affected by transferring coach repair work from Denver, Colo., to the shops of the Chicago, Burl-

ington & Quincy, at Aurora, Ill., have requested the Public Utilities Commission of Colorado to intervene with Federal Coordinator Joseph B. Eastman or with the Interstate Commerce Commission and ask that the Colorado & Southern be directed to suspend its order transferring the work. The employees maintain that if the company closes its shops without an order from Mr. Eastman, the company would not be obliged to take the men on again at other points on the road; whereas if an order were issued by Mr. Eastman permitting the closing, the road would be required under the law to re-employ the workmen affected by the order.

### Commodities Clause Suit Against Montour Railroad

Attorney General Cummings, at the request of the Interstate Commerce Commission, has asked the federal district court at Pittsburgh, Pa., to issue an injunction to prohibit the Montour Railroad from transporting coal owned by the Pittsburgh Coal Company, which controls the railroad, on the ground that this represents a violation of the commodities clause of the interstate commerce act. Although the law applies directly to railroads, prohibiting them from hauling commodities in which they are interested, except for railroad purposes, the petition takes the position that the railroad and the coal company are virtually the same entity, having many common officers, directors, and employees. A similar suit against the Elgin, Joliet & Eastern and the United States Steel Corporation was instituted several years ago and is still pending.

### Chicago Switching Rates to Increase November 20

An injunction filed by shippers in the federal district court in Chicago against the order of the Interstate Commerce Commission, increasing switching rates in the Chicago switching area on November 20, was dismissed on November 6, when an opinion of Federal Judges A. B. Anderson, James H. Wilkerson and John P. Barnes upheld the validity of the order of the commission, entered on July 3. The opinion of the three judges, who sat *en banc* in the case, held that the Interstate Commerce Commission's order was valid and ordered the dismissal of the suit to enjoin the commission from enforcing the order. The position of the Chicago district interests is that the Interstate Commerce Commission did not have sufficient and proper evidence on which to enter its order and had assumed jurisdiction over state rates.

### R. & L. Bulletin 32

The Railway and Locomotive Historical Society (Boston) has issued Bulletin Number 32, a pamphlet of 70 pages, illustrated with photographs of scenes on the Central Pacific, in 1868, and 1869, and of numerous locomotives of the Boston & Maine, from 1865 to 1891.

The principal article is a running account from the diary of D. L. Harris, of a journey over the Union and the Central Pacific to California, in July, 1869, just

after the completion of the transcontinental line. There is a portrait of Mr. Harris, who for 25 years was president of the Connecticut River, now a part of the Boston & Maine, and who, in 1869, was appointed by President Grant as a government director of the Union Pacific.

Charles E. Fisher contributes a historical article on the locomotives of the Boston & Maine, and E. G. Young one on the development of the American railway passenger car.

### \$4,502,384 Repaid to Railroad Credit Corporation

The Railroad Credit Corporation, which is now liquidating the pool created by the railroads with revenues derived from the emergency rates granted by the Interstate Commerce Commission in Ex Parte 103, had secured repayments of \$4,502,384 from borrowing carriers, which reduces the outstanding loan balances to \$69,188,984, according to the statement showing the financial condition of the corporation as of October 31, filed with the Interstate Commerce Commission. The corporation's third distribution to participating carriers, repaying \$1,473,275, or 2 per cent of the contributed fund, was completed October 16. The total repayments now aggregate \$5,205,449. The balance of the emergency revenue contributions at October 31, is \$69,067,306, to liquidate which the Credit Corporation has cash items of \$1,034,822, interest and other accounts receivable of \$452,021, and notes, evidencing loans, of \$69,188,984. The notes bear interest at the New York Federal Reserve rediscount rate, adjusted quarterly on the first day of January, April, July and October.

### Reduced Passenger Rates on L. & N. Bring Traffic Increase

The two-cent passenger rate which the Louisville & Nashville placed in effect for a six months' period from April 1, 1933, to October 1 and then continued until March 31, 1934, is bringing increased business to the road, as shown by a comparison of the traffic for April, May, June and July of this year, with that for the same months of 1932. In 1932, passenger revenues decreased 35.4 per cent, as compared with 1931, while the decrease in the first three months of 1933, as compared with 1932, was 31.9 per cent. In the next four months, the first with the reduced rates, the decrease in revenues was only 16.8 per cent.

From the standpoint of passengers transported, the results are even more encouraging. The number of passengers carried in 1931 was 3,008,217, while in 1932, it was 2,149,692, a decrease of 858,525, or 28.5 per cent. In the first three months in 1933, the number of passengers transported showed a still further decline of 185,383 passengers, or 33.6 per cent, compared with the same months in 1932. In April, the first month of the reduction in fare, the number of passengers increased 29,526, as compared with April, 1932; in May, the increase as compared with a year ago, was 24,449; in June, there was a decrease, because of a heavy excursion traffic in June, 1932, of 96 passengers;



while in July, 54,083 more passengers were carried than in July, 1932. For the four months, the increase in the number of passengers under the new rates has been 107,962, or 14.1 per cent. These results encourage the belief that a continuance of these reduced fares will, in the not distant future, produce revenues at least equal to 1932.

### A.S.M.E. Annual Meeting Program

The program for the 1933 annual meeting of the American Society of Mechanical Engineers, which is to be held December 4-8 at the Engineering Societies Building, 29 West Thirty-ninth street, New York, includes among the regular features a session on air-conditioning. The papers to be presented at this and other sessions during the meeting are as follows:

Tuesday, December 5  
9:30 a.m.

Fuels  
Machine Design, Materials Handling  
Railroad—I  
Locomotive Counterbalancing, Lawford H. Fry  
Research and Development of Light-Weight  
High-Speed Passenger Trains, E. E. Adams.

2 p.m.

Milling vs. Planing  
Applied Mechanics  
Railroad—II  
Research and Development of Steel for Rail-  
way Equipment  
Extent to Which Locomotive Standardization  
Is Possible, H. H. Vaughan  
Developments in Railroad Research  
Progress in Railroad Engineering (presented  
by title)

8:30 p.m.

President's night

Wednesday, December 6  
9:30 a.m.

Lubrication Research  
Oil and Gas Power

2 p.m.

Lubrication Engineering  
Railroad Service Testing of Journal Lubrica-  
tion and Lubricants, Robert Job  
Steam Tables Research  
Heat-Transfer Symposium

6:30 p.m.

Annual dinner to new members

Thursday, December 7  
9:30 a.m.

Stress Analysis  
Some New Experiments on Thin-Sheet Con-  
struction, F. J. Bridget  
Metal Cutting  
Iron and Steel  
Investigating the Performance of Bearing  
Metals and the Wear on These Metals, J. R.  
Connelly

2 p.m.

Air Conditioning  
Psychrometric Investigations and Data, Dr.  
F. G. Keyes  
Physiological Side of Air Conditioning, R. R.  
Sayres  
Noise Elimination and Air Motion, C. B.  
Graves  
Mechanical Springs  
Analysis of Stress in a Helical Spring of  
Circular Wire, H. C. Perkins  
Elastic Behavior and Creep, M. F. Sayre  
Fatigue and Mechanical Properties of Spring  
Material, D. J. McAdam  
An Investigation of Eccentricity of Load in  
Helical Springs, J. B. Reynolds  
Boiler Feedwater  
Progress Report on the Determination of Dis-  
solved Oxygen in Boiler Feedwater, C. H.  
Fellows  
The Solubility of Sodium Sulphate in Boiler-  
Water. Salines as Related to the Prevention  
of Embrittlement, Everett P. Partridge  
Engineering Education

### Purchasing Agents Study Codes

A special committee of the Purchases and Stores division, American Railway Association, has been appointed for the purpose of considering approved codes and offering suggestions to manufacturers in connection with the formulation of codes

where desired. This committee consists of representatives from each regional co-ordinating group, as follows: Eastern region, C. D. Young, vice-president, Pennsylvania, Philadelphia, Pa., chairman; Southern region, A. C. Mann, vice-president, Illinois Central, Chicago; Western region, D. C. Curtis, chief purchasing officer, Chicago, Milwaukee, St. Paul & Pacific, Chicago; Division VI, G. E. Scott, purchasing agent, Missouri-Kansas-Texas lines, St. Louis, Mo., chairman ex-officio.

The opinion is expressed that such a committee can serve a useful purpose by conferring with industries manufacturing and selling materials used by railroads, with a view of removing, if possible, inconsistencies in codes already adopted, and clarifying certain provisions which are subject to misinterpretation, without interfering with the work of the National Recovery Administration. It is understood that for the present the activities of the committee are being confined to inconsistencies which have developed in connection with the steel code, and purchasing agents have been notified to submit suggestions with respect to the steel or other codes for such consideration.

### P. R. R. Truck for Unloading Baggage of Pullman Passengers

To facilitate the unloading of hand baggage from Pullman cars at terminals, the Pennsylvania has constructed a light collapsible truck for use of the porters in placing the traveler's luggage on the station platform. The first of these trucks, now being tried out experimentally on the hourly trains between Philadelphia, Pa., and New York, is built to fit the vestibule platform space at the end of the car. Being equipped with rubber-tired ball bearing wheels, the loaded truck can easily be



The Truck Can Be Folded Up to a Thickness of Four Inches

pushed from the car at the terminal immediately on the stopping of the train.

The truck is 42 in. long and 25 in. wide; at either end there are 19-in. high lattice drop gates, hinged to the floor which are raised when the truck is being loaded. The 8-in. rubber-tired wheels are hinged to the underside of the floor, so that when not in

use the truck can be folded up to a thickness of four in., thus making it easy to handle and also to store away in the recesses of the Pullman car on the run between terminals. It weighs 51 lbs. and is built of aluminum; from 10 to 15 pieces of ordinary hand baggage can be loaded on the truck at one time.

## Equipment and Supplies

### Public Works Administration to Finance Railroad Equipment Loans

The Public Works Administration has outlined its policy in connection with railroad equipment loans as follows: "That from such railroads as need equipment the government will buy their equipment trust notes month by month in amounts that may be necessary to meet these purchases, these notes are to run 15 years on freight equipment and 20 years on locomotives and passenger cars at 4 per cent interest and the federal government will not charge any interest the first year."

### Pennsylvania to Spend \$84,000,000 on Improvements

The Pennsylvania has been allotted not to exceed \$84,000,000 by the Public Works Administration to complete its electrification between New York and Washington, D. C., and to purchase new equipment.

The P. R. R. plans to spend a total of \$78,000,000 by the end of 1934 and \$5,000,000 during 1935. About \$39,000,000 is to be spent for roadway and equipment, including \$15,850,000 for electrical material and equipment, \$2,000,000 more for material fabricated and not paid for and other items for real estate, labor supervision, engineering work, train expense, etc., and \$5,402,000 for tunnels at Baltimore, Md., and at Washington, and reconstruction work at Elkton, Md. Electric locomotives to be purchased include 28 passenger, 60 freight, 14 switching and 30 to be converted from d.c. to a.c. Twenty-three multiple unit passenger cars will be acquired at a cost of \$1,087,000. Sixteen million dollars will be spent for 7,000 freight cars to be built in company shops; these include 500 box with automobile loaders and 2,000 other box and 1,500 flat cars. It is estimated that this will give work to 18,000 men in 35 states. The Pennsylvania will probably arrange to sell to the government 15- to 30-year collateral trust notes maturing serially each year.

In connection with the statement issued by the Public Works Administration in Washington that \$84,000,000 has been allotted to the Pennsylvania, General W. W. Atterbury, president of the company, said:

"The statement of Secretary Ickes covers the whole ground. It means that the government has decided to include in its National Recovery program the completion of the Pennsylvania Railroad's electrification between New York and Washington for freight and passenger service, and the purchase of some new equipment. The

government has taken the usual first step by allocating the funds.

"The next step requires the company and the government to agree on mutually satisfactory terms for financing the work, and the third step is to release the funds as required when this work can proceed promptly. It will provide much new employment on the railroad and in the industries. I hope it is the beginning of a new broad-gaged policy by the government in dealing with the railroads of the country."

Additional information concerning the Pennsylvania project will be found elsewhere in this issue.

## FREIGHT CARS

THE UNITED STATES NAVY DEPARTMENT, Bureau of Supplies and Accounts, Washington, D. C., has ordered four 30-ton, 36-in. gage flat cars from the American Car & Foundry Company. These cars are for service at Pearl Harbor, Hawaii. In the *Railway Age* of October 7, this company was reported as the low bidder on this equipment.

THE PENNSYLVANIA has placed orders for 500 automobile box cars of large dimensions to be constructed at the railroad company's shops. They will be similar to the 250 automobile box cars which have been built and gradually placed in service since last fall. A special loading device will be installed in the cars which will permit the placing of four average size automobiles in each car. Work of assembling material will be started at once, just as soon as it has been received the actual construction of the cars will be started.

## IRON AND STEEL

THE PUBLIC WORKS ADMINISTRATION has allotted the sum of \$51,000,000 for the purchase of 1,000,000 tons of rail and 400,000 tons of fastenings for the railroads.

PENNSYLVANIA.—Collaborating with Joseph B. Eastman, federal co-ordinator of transportation, in conformity with the President's plan to stimulate the purchases of steel rail by the railroads of the country, the Pennsylvania has announced that it would purchase 100,000 tons of new rail. This is a year's requirements and calls for three separate standard weights to include 27,000 tons of 152-lb. section; 72,000 tons of 131-lb. section and 1,000 tons of 112-lb. section. The 152-lb. rail is the heaviest used in the main high-speed running tracks of the Pennsylvania. All of this rail will be paid for by the railroad company out of current funds.

## SIGNALING

BOSTON & MAINE.—The Interstate Commerce Commission, Division 6, has issued a modification of its automatic train control order of June 13, 1922, to permit operation by the Boston & Maine of locomotives equipped with automatic cab indicators, in lieu of automatic train control devices, between West Cambridge, Mass., and East Deerfield, 99.5 miles of road.

# Supply Trade

## N.R.A. Codes

President Roosevelt on November 2 approved a code of fair competition for the steel castings industry, on which a hearing was held on September 7. The code provides for a 40-hour week averaged over an eight-week period, with the proviso that no employee may be employed more than 48 hours or more than six days in any one week. Rates of pay vary from 40 cents an hour in the northern wage districts to 25 cents an hour in the southern wage districts and the hours and wages closely follow those provided in the code for the steel industry. The industry embraces two main groups of castings, commonly known in the trade as "miscellaneous castings" and "specialties." The board of directors of the Steel Founders' Society is to be the general agency of administration of the code.

A public hearing on the proposed code for the gear manufacturing industry was held on November 8 before Deputy Administrator George S. Brady of the N.R.A. A hearing on the code for the manufacturers of Diesel engines will be held on November 22 before Deputy Administrator Malcolm Muir or one of his assistants.

## Construction

ATCHISON, TOPEKA & SANTA FE.—A contract has been awarded to J. F. Knapp, Oakland, Cal., for the construction of a concrete and steel highway viaduct, 1,016 ft. long, over the tracks of the Santa Fe at San Bernardino, Cal.

CENTRAL OF NEW JERSEY.—A contract has been given to the Arthur McMullen Company, New York, for making changes to the channel piers and fenders, of the Hackensack river drawbridge to accommodate a deeper channel. This bridge is located between Jersey City, N. J. and Kearny; the cost of the work will be about \$25,000. A contract has been given to J. Rich Steers, Inc., New York, for the erection of 650 tons of new structural steel and the removal and disposal of old steel, on the replacement of two westerly spans of bridge No. 200, over the Pennsylvania's tracks on the C. N. J.'s Newark & New York branch; the cost of this work will be about \$26,580.

DELAWARE, LACKAWANNA & WESTERN.—This company has been ordered by the New York Public Service Commission to show cause by November 15 why it has not submitted plans or performed any work in connection with the elimination of the East Bethany crossing in the town of Bethany, Genesee county, N. Y. The commission directed the elimination of this crossing by placing the highway below the railroad at an estimated cost of \$159,100.

NEW YORK CENTRAL.—The New York Public Service Commission has approved as not excessive a bid of \$154,533 submitted

by Louis Mayersohn, Albany, N. Y., for the elimination of the Eddy crossing of this road in the town of Canton and the Gouverneur-DeKalb state highway crossing in the town of DeKalb, St. Lawrence county, N. Y.

NEW YORK CENTRAL.—This company has been directed by the New York Public Service Commission to submit detail plans, specifications, estimates of cost and land maps, in connection with the elimination of the North Main street (Willow avenue) and Mud Mill road crossings in Newark, Wayne county, N. Y., not later than February 1. The elimination of these crossings by means of one overcrossing was directed by the Commission in 1930. The estimated cost of the elimination project based on 1930 prices is \$191,600, exclusive of land and property damages.

NORTHERN PACIFIC.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of an extension from Odair, Wash., to a point at the head of the Grand Coulee above the proposed Columbia river dam, 28.5 miles, to be built on condition that a firm contract is made for the construction of the dam and that the proper government authority give assurance that the government will route by rail its traffic in connection with the construction of the dam and provide, so far as possible, that contractors' traffic be also routed by rail. It is also proposed that the company shall have the right to remove the railroad after the dam is built or transfer title to the government at salvage value. It is also negotiating with the Great Northern to share with the latter the cost of the construction and allow the Great Northern trackage rights over the Northern Pacific from Adrian, Wash., to Odair.

## Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a line extending from Colony, Kans., southwesterly to Yates Center, 24.7 miles.

CHICAGO, BURLINGTON & QUINCY.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue and sell or pledge \$2,000,000 of general mortgage 4 per cent bonds to provide working capital.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Wallace, Mo., to Rushville, 11.87 miles.

GULF & SHIP ISLAND.—*Abandonment.*—Examiner M. S. Jameson, of the Interstate Commerce Commission, has recommended in a proposed report that the commission authorize the abandonment of the line from Columbia, Miss., to Maxie, 48 miles.

LOUISVILLE & NASHVILLE.—*Abandonment.*—The Interstate Commerce Commission



sion has authorized this company to abandon a branch line extending from Prattville Junction, Ala., to Prattville, 10 miles.

**MINNEAPOLIS & ST. LOUIS-CHICAGO, BURLINGTON & QUINCY.**—*Co-Ordination Plan.*—W. H. Bremner, receiver of the M. & St. L., and the Chicago, Burlington & Quincy have filed with the Interstate Commerce Commission a joint application for authority for a co-ordination of facilities in Iowa. The M. & St. L. proposes to purchase and operate two sections of branch line of the Burlington, from Tracy, Ia., to Oskaloosa, 13.85 miles, and from Martinsburg to Coppock, 30.52 miles, together with certain terminal facilities, to construct three short connecting tracks, and to abandon operation under trackage rights over the Chicago, Rock Island & Pacific between Oskaloosa and Des Moines, 63.4 miles. It also proposes to operate freight service over the Burlington between Tracy and Des Moines, 48.8 miles and to abandon its own line from Brighton to Coppock, 7.2 miles. The Burlington asks authority to abandon its line from Winfield to Coppock, 16.56 miles, and from Martinsburg to Oskaloosa, 22.03 miles.

**SOUTHERN PACIFIC.**—*Abandonment.*—The Interstate Commerce Commission has authorized this company and the Arizona & New Mexico to abandon a portion of a branch line extending from Hachita, N. M., to a point near Lordsburg, 37.6 miles.

*The Texas & New Orleans* has been authorized to abandon a branch extending from Nome, Tex., to Sour Lake, 8.3 miles.

**SOUTHERN PACIFIC.**—*Lease.*—This company has applied to the Interstate Commerce Commission for authority to operate under a new lease the properties of the El Paso & Southwestern of Texas and the El Paso & Northeastern, now operated under a lease which expires December 31. These companies own the lines of the El Paso & Southwestern system, which is controlled by the Southern Pacific, in Texas and New Mexico.

**WACO, BEAUMONT, TRINITY & SABINE.**—*Rehearing on R. F. C. Loan Application Denied.*—The Interstate Commerce Commission has denied the petition of Paul T. Sanderson, receiver, for a reconsideration of the report in which the commission had previously denied approval of his application for a loan of \$304,500 from the Reconstruction Finance Corporation.

**WILKES & WESTERN.**—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire by purchase and rehabilitate the property of the Watauga & Yadkin River, which has a line from North Wilkesboro, N. C., to Darby, 26.49 miles. It proposes to issue for the purpose \$250,000 of common stock and \$250,000 of first mortgage 6 per cent bonds.

#### Average Prices of Stocks and of Bonds

	Nov. 8	Last week	Last year
Average price of 20 representative railway stocks..	38.07	35.04	23.80
Average price of 20 representative railway bonds..	65.03	66.27	57.01

## Railway Officers

### EXECUTIVE

**C. E. Ervin**, chief operating officer of the Mobile & Ohio, has been appointed a receiver for the company, with headquarters as before at St. Louis, Mo. **T. M. Stevens** has also been appointed a receiver for the company, with headquarters at Mobile, Ala.

The Interstate Commerce Commission has issued an order authorizing **L. C. Probert**, who has been assistant to the president of the Chesapeake & Ohio and vice-president of the Pere Marquette, to serve as vice-president and director of the Chesapeake & Ohio, the Pere Marquette and affiliated companies, after the filing of written notice of his election or appointment thereto.

**Ernest E. Norris**, who has been appointed vice-president in charge of operation of the Southern, with headquarters in Washington, D. C., as reported in the *Rail-*



Ernest E. Norris

*way Age* of November 4, was born in Hoopston, Ill., on January 21, 1882. He was educated in the public schools of that city and entered railroad service with the Southern Railway in 1902 as car agent at Washington, D. C. He advanced through various positions in the operating department to the position of general superintendent, then being appointed assistant to the president. In 1920 he was elected vice-president of the Mobile & Ohio at St. Louis, Mo., subsequently being appointed receiver for the same road, the position he held at the time of his recent appointment as vice-president of the Southern.

### TRAFFIC

**Charles E. Burnett**, freight and passenger agent for the Chicago, Rock Island & Pacific, at Portland, Ore., has been appointed to the newly-created position of general agent with the same headquarters.

**C. W. Mangum**, traveling freight and passenger agent on the Western Pacific, at

Pocatello, Ida., has been promoted to general agent at San Jose, Cal., succeeding **A. C. Potter**, who has been assigned to other duties.

**K. A. Cook**, general agent of the Canadian Pacific, with headquarters at Atlanta, Ga., has been transferred in the same capacity to Cincinnati, Ohio, succeeding **M. E. Malone**, who has been transferred to Detroit, Mich., succeeding **G. G. McKay**, deceased. **S. E. Corbin**, assistant general agent at New York, has been promoted to general agent at Atlanta, succeeding Mr. Cook.

### FINANCIAL, LEGAL AND ACCOUNTING

**I. H. Buckle** has been appointed freight claim agent for the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., succeeding **W. B. Wells**, who has resigned.

### OPERATING

**Robert H. Corson**, superintendent of telegraph of the Erie, with headquarters at Cleveland, Ohio, retired on November 1, after having served in the telegraph and signal department of that road for more than half a century. He will be succeeded by **M. A. Baird**, signal engineer at Cleveland.

**James P. Houston**, who has been appointed general manager of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., as noted in the *Railway Age* of October 21, has been in railroad service with various companies for more than 56 years. He was born on April 15, 1865, at Durand, Ill., and first entered railway service at the age of 10 years as a water boy with a fence crew on the Chicago, Burlington & Quincy. During the next 10 years he worked successively as a flagman, laborer and brakeman on the Burlington, studying telegraphy in his spare time. In 1885, Mr. Houston was appointed a telegrapher and after two years he left railway service to go with



James P. Houston

the Western Union Telegraph Company. In 1889 he became a train dispatcher on the Chicago Great Western, being promoted to chief dispatcher two years later.

In 1899 he went with the Great Northern in the same capacity, returning to the Great Western three years later, where he was appointed a trainmaster in 1906. After three years in the latter capacity, Mr. Houston entered the service of the Minneapolis & St. Louis as a trainmaster, being promoted to superintendent in 1914. He was further advanced to assistant to the general manager in 1920 and was made assistant to the chief operating officer in 1928. His appointment as general manager became effective on October 10.

**H. A. Connett**, assistant superintendent on the Union Pacific with headquarters at Cheyenne, Wyo., has been promoted to superintendent on the Oregon-Washington Railroad & Navigation Company (a unit of the Union Pacific System) at Portland, Ore., succeeding **W. H. Guild**, who has been appointed assistant superintendent of the Washington division, with headquarters at Walla Walla, Wash., where he replaces **B. A. Danes**, who has been assigned to other duties. **T. E. Williams**, trainmaster on the Union Pacific at Green River, Wyo., has been advanced to assistant superintendent at Cheyenne, to succeed Mr. Connett.

## MECHANICAL

**H. H. Haupt**, who has been appointed superintendent of motive power of the Eastern and Central divisions of the Pennsylvania at Harrisburg, Pa., as reported in the *Railway Age* of November 4, was graduated from the University of Pennsylvania and entered railway service on June 14, 1911, as special apprentice on the Pennsylvania. Five years later he was



H. H. Haupt

advanced to motive power inspector and in November, 1917, he was promoted to assistant master mechanic at Harrisburg. On October 1, 1918, Mr. Haupt was further promoted to assistant engineer of motive power, with headquarters at Williamsport, Pa., where he remained until 1924, when he was appointed master mechanic at Wilmington, Del. In May, 1928, the Northwestern division was created with headquarters at Chicago and Mr. Haupt was appointed superintendent of motive power of that division. In October, 1929, he was appointed superintendent of motive power of the northern division at Buffalo

and in May, 1932, he was made master mechanic of the northern division, the position he held at the time of his recent appointment.

## PURCHASES AND STORES

**E. S. Jamieson**, chief clerk in the purchasing department of the Union Pacific System, has been promoted to assistant to the general purchasing agent, with headquarters as before at Omaha, Neb., succeeding **Harold Wilson**, deceased.

## SPECIAL

**Edward C. Weigle**, captain of police at the Chicago passenger station of the Chicago & North Western, has been promoted to chief special agent of the company to succeed **William T. Dinneen**, deceased.

## OBITUARY

**Frederick E. Bolte**, who, until 1915, was superintendent of transportation of the Wabash, at St. Louis, Mo., died on October 24 at his home at Dallas, Tex.

**Frank R. McNamee**, general attorney for the Los Angeles & Salt Lake, with headquarters at Las Vegas, Nev., died suddenly on November 5 of heart disease. Mr. McNamee was born on December 4, 1866, at Boscobel, Wis., and entered railway service in 1898 with the Utah & Pacific (now part of the Oregon Short Line). In April, 1901, he was appointed local attorney in Nevada for the Oregon Short Line and in May, 1907, he was appointed local attorney for the San Pedro, Los Angeles & Salt Lake (now the Los Angeles & Salt Lake). Three years later Mr. McNamee was made general attorney which position he was holding at the time of his death.

**E. C. Wills**, who retired in 1932 as assistant general manager of the Missouri Pacific in charge of wage and labor matters, died of heart disease on November 2 at his home at Clayton, Mo., at the age of 71 years. Mr. Wills was a native of Greensboro, Ala. He entered railway service in December, 1889, as a clerk on the Missouri Pacific at Atchison, Kan., later serving as chief clerk in the office of the superintendent at Wichita, Kan., and as trainmaster at Coffeyville, Kan., and at Hoisington. Mr. Wills was next appointed labor clerk in the office of the general manager at St. Louis, Mo., and in February, 1916, he was advanced to assistant to the general manager in charge of matters concerning personnel. In January, 1917, he was appointed division superintendent at Atchison, later being transferred to the Wichita division. On November 16, 1917, he was promoted to assistant general manager at St. Louis, which position he held until his retirement on August 6, 1932.

**A. P. Housholder**, mechanical superintendent of the Gulf Coast Lines and the International-Great Northern, with headquarters at Houston, Tex., died on November 3 at the age of 54 years. Mr. Housholder entered railway service in 1894 as a machinist apprentice on the Southern at Knoxville, Tenn., being promoted to

machinist four years later. In 1899 he went with the Illinois Central as a machinist at Paducah, Ky., and in 1904 he accepted a similar position with the Missouri Pacific at St. Louis, Mo. After two years Mr. Housholder was promoted to enginehouse foreman at Jefferson City, Mo., later being transferred to St. Louis. In 1909 he returned to the Illinois Central as general foreman at East St. Louis, Ill., again going with the Missouri Pacific in 1912 as division foreman at Dupon, Ill. In 1919 Mr. Housholder was advanced to master mechanic at Nevada, Mo., and served in this position at various points until September 1, 1926, when he was appointed mechanical superintendent of the Gulf Coast Lines and the International-Great Northern (subsidiaries of the Missouri Pacific).

**Henry W. Miller**, vice-president in charge of operation of the Southern, who died on October 20, as reported in the *Railway Age* of October 28, was born at Raleigh, N. C., on August 8, 1868. He was educated in the public and private schools of that city and entered railway service in October, 1885, as delivery clerk for the Richmond & Danville (now a part of the Southern), at Raleigh. From that date until December, 1901, Mr. Miller served consecutively with the same road as telegraph operator, clerk in the superintendent's office, billing clerk, chief clerk in the freight station, rate clerk in the division freight office, chief clerk, secretary to the vice-president, and tax agent. From 1901 to 1910, he was assistant to the first vice-president of the Southern at Raleigh, and on the latter date he was appointed assistant to the president with



Henry W. Miller

headquarters at Atlanta, Ga. From April, 1915, until February, 1920, Mr. Miller served as vice-president of the Southern and its affiliated lines, with headquarters at Atlanta, and in March, 1920, he became vice-president of the same road and affiliated lines at Washington, D. C., in charge of construction, purchasing, real estate and insurance. He was placed temporarily in charge of the operating department of the Southern System in November 1920, and in January, 1921, he was appointed vice-president in charge of operation of the system, with headquarters at Washington, D. C., the position he held at the time of his death.



# Revenues and Expenses of Railways

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933

Operating expenses

Name of road	Av. mileage operated during period	Operating revenues			Maintenance of—		Traffic	Trans- portation	General	Total	Operating ratio	railway operation	Operating income	1932
		Freight	Passenger	Total (inc. misc.)	Way and structures	Equip- ment								
Akron, Canton & Youngstown.....	171	\$132,132	\$26	\$140,475	\$19,362	\$15,050	\$7,404	\$42,197	\$7,373	\$91,386	65.1	\$49,089	\$40,572	\$24,630
Alton.....	975	1,159,874	161	1,223,541	150,451	129,134	69,377	344,835	77,961	766,925	62.7	456,916	361,301	252,250
Alton.....	975	879,923	212,820	1,240,812	176,783	157,175	46,982	422,622	38,132	853,584	68.8	387,228	289,440	172,965
Alton.....	978	7,322,870	1,481,644	10,039,268	1,179,212	1,164,041	417,242	3,755,697	371,647	6,987,245	69.6	3,052,023	2,322,005	1,209,814
Alton & Southern.....	31	.....	.....	95,576	6,022	6,653	5,589	27,104	3,775	49,143	51.42	46,433	41,484	37,204
Alton & Southern.....	31	.....	.....	765,507	60,882	58,549	46,160	242,433	36,546	444,577	58.08	320,930	274,031	233,843
Atchison, Topeka & Santa Fe.....	9,711	7,065,019	1,123,103	8,188,122	1,062,369	1,953,324	287,387	2,768,069	348,411	6,411,534	71.8	2,512,345	1,703,976	1,846,027
Atchison, Topeka & Santa Fe.....	9,727	5,721,636	8,846,365	14,568,001	9,497,267	17,188,501	2,734,379	25,055,129	3,311,928	57,765,556	79.8	14,395,488	6,904,467	7,779,407
Gulf, Colorado & Santa Fe.....	1,955	955,380	55,250	1,010,630	142,065	231,370	47,966	369,948	66,168	857,239	79.0	227,362	141,974	65,898
Gulf, Colorado & Santa Fe.....	1,955	8,101,732	384,997	8,486,729	1,515,674	2,128,939	441,603	3,371,566	576,200	8,046,013	88.5	1,048,615	274,047	532,929
Gulf, Colorado & Santa Fe.....	1,878	617,631	26,120	643,751	84,016	128,939	17,594	190,015	32,298	452,809	65.1	1,243,261	203,081	136,427
Panhandle & Santa Fe.....	1,878	5,453,724	208,979	5,662,703	855,011	1,256,133	160,151	1,783,763	279,713	4,335,013	71.4	1,739,731	1,357,267	702,260
Panhandle & Santa Fe.....	1,878	5,453,724	208,979	5,662,703	855,011	1,256,133	160,151	1,783,763	279,713	4,335,013	71.4	1,739,731	1,357,267	702,260
Panhandle & Santa Fe.....	1,878	5,453,724	208,979	5,662,703	855,011	1,256,133	160,151	1,783,763	279,713	4,335,013	71.4	1,739,731	1,357,267	702,260
Atlanta & West Point.....	93	75,240	15,316	90,556	22,747	23,186	7,387	44,991	6,572	106,913	101.7	1,837	8,781	29,474
Atlanta & West Point.....	93	695,622	125,798	821,420	957,111	175,760	60,882	418,257	60,050	939,331	98.1	17,780	47,906	169,286
Western of Alabama.....	133	75,217	15,991	91,208	27,325	26,400	6,996	39,968	6,586	108,884	107.1	7,244	20,583	22,835
Western of Alabama.....	133	693,673	133,644	827,317	923,469	191,014	61,012	365,402	59,585	947,034	102.6	23,565	96,311	64,966
Atlanta, Birmingham & Coast.....	639	157,677	6,669	164,346	40,530	50,409	18,708	82,721	14,351	213,487	111.7	22,523	36,132	39,474
Atlanta, Birmingham & Coast.....	639	1,678,176	38,736	1,716,912	346,299	390,059	172,357	800,728	134,205	1,933,410	98.4	30,928	93,013	182,481
Atlantic Coast Line.....	5,144	1,777,645	236,205	2,013,850	423,065	714,966	107,226	1,035,655	2,411,677	105.8	132,136	132,136	282,709	188,860
Atlantic Coast Line.....	5,144	22,741,585	3,364,728	26,106,313	3,607,815	7,785,710	2,977,823	31,914,996	4,880,593	65,110,462	66.7	32,482,442	26,158,786	22,679,436
Charleston & Western Carolina.....	342	138,461	2,518	140,979	25,105	23,536	5,698	46,824	5,099	106,262	73.3	38,751	19,743	21,150
Charleston & Western Carolina.....	342	1,397,773	10,196	1,407,969	200,383	188,823	50,169	452,979	43,403	935,757	64.7	509,513	353,237	348,728
Baltimore & Ohio.....	6,403	11,442,311	1,031,494	12,473,805	1,336,245	2,604,178	355,801	3,968,851	563,174	8,940,085	66.9	4,416,623	3,683,895	3,379,018
Baltimore & Ohio.....	6,403	84,142,092	7,201,801	91,343,893	7,785,710	16,736,318	2,977,823	31,914,996	4,880,593	65,110,462	66.7	32,482,442	26,158,786	22,679,436
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,482	22,308	36,065	1,316	141,516	11,199	218,804	76.9	65,678	20,469	98,180
Baltimore & Ohio.....	84	.....	.....	2,321,804	166,220	342,398	13,066	1,204,069	110,654	1,882,215	81.1	439,589	98,074	848,878
Staten Island Rapid Transit.....	23	451,723	766,714	1,218,437	81,600	14,075	1,901	73,922	12,786	986,050	76.5	300,454	171,879	29,647
Baltimore & Ohio.....	84	.....	.....	284,										

# Revenues and Expenses of Railways

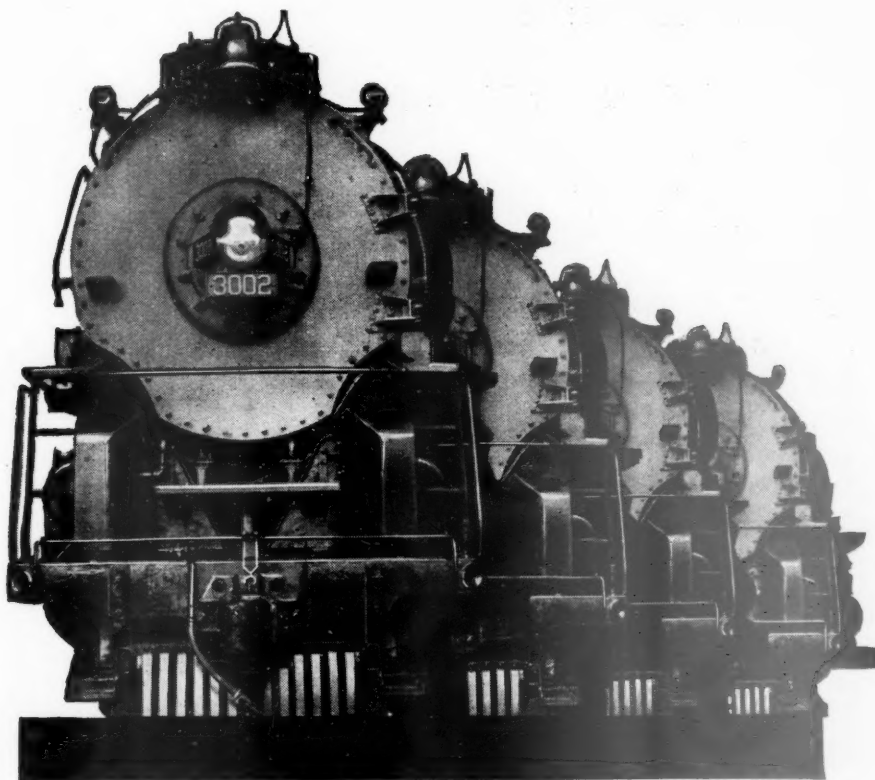
MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from railway operation		Net operating income, 1932
		Freight	Passenger	Total	Maintenance of way and structures	Equip-	Traffic	Trans- portation	General		Total	Operating income	
Chicago & Illinois Midland.....	Sept. 131	\$266,030	\$981	\$267,011	\$46,150	\$44,216	\$14,997	\$24,434	\$14,981	65.5	\$182,749	\$71,423	\$8,593
Chicago & North Western.....	9 mos. 131	2,142,888	8,985	2,151,873	236,289	402,219	138,841	526,822	136,174	65.0	1,442,740	663,631	75,019
Chicago & North Western.....	Sept. 8,442	5,426,825	948,756	6,375,581	920,192	1,268,176	170,845	2,427,354	257,711	71.4	5,074,169	1,451,993	991,721
Chicago & North Western.....	9 mos. 8,442	42,231,495	6,850,419	49,081,914	7,338,671	11,134,686	1,405,171	20,913,457	2,381,764	79.0	43,448,298	6,257,696	194,743
Chicago, Burlington & Quincy.....	Sept. 9,247	5,972,834	734,314	6,707,148	906,205	1,041,457	205,812	2,355,216	282,894	65.4	4,843,076	1,955,371	1,599,584
Chicago, Burlington & Quincy.....	9 mos. 9,247	45,539,732	5,020,714	50,560,446	5,840,216	8,799,891	1,860,321	20,064,173	2,539,666	69.6	41,343,446	8,676,900	1,307,505
Chicago Great Western.....	Sept. 1,499	1,238,274	60,464	1,298,738	163,032	163,576	50,851	464,395	48,926	65.3	473,013	81,343	213,544
Chicago Great Western.....	9 mos. 1,499	9,721,270	391,478	10,112,748	1,447,379	1,475,377	448,291	4,031,697	425,610	72.5	7,822,350	2,405,745	693,251
Chicago, Indianapolis & Louisville.....	Sept. 647	514,467	78,439	592,906	62,799	128,846	25,187	245,408	20,295	72.4	487,282	149,425	55,192
Chicago, Mil., St. Paul & Pacific.....	9 mos. 11,219	4,262,343	453,730	4,716,073	479,785	1,194,297	200,844	2,226,074	197,014	80.9	4,334,067	698,163	—39,513
Chicago, Mil., St. Paul & Pacific.....	Sept. 11,219	6,620,013	647,814	7,267,827	1,430,363	1,457,554	183,263	2,623,529	242,681	74.7	5,975,528	1,472,507	960,277
Chicago, Mil., St. Paul & Pacific.....	9 mos. 11,233	53,994,692	4,241,748	58,236,440	7,673,753	12,860,123	1,798,949	23,279,137	2,275,226	74.9	48,148,255	10,403,320	—2,396,614
Chicago River & Indiana.....	Sept. 20	.....	.....	418,842	20,000	25,000	1,458	116,992	9,812	41.4	173,262	210,860	245,010
Chicago River & Indiana.....	9 mos. 20	.....	.....	3,357,902	136,500	198,000	13,406	2,009,433	255,012	43.5	1,461,735	1,667,651	1,860,199
Chicago, Rock Island & Pacific.....	Sept. 7,611	4,333,718	557,442	4,891,160	688,258	1,270,485	168,618	2,009,433	255,012	82.0	4,535,976	574,007	840,393
Chicago, Rock Island & Pacific.....	9 mos. 7,611	37,616,308	4,103,025	41,719,333	4,760,386	9,793,896	1,505,385	17,970,522	2,276,437	79.9	36,819,614	5,125,398	2,856,971
Chicago, Rock Island & Gulf.....	Sept. 721	215,897	16,260	232,157	54,226	48,068	14,435	92,337	16,984	97.3	228,341	166,545	71,863
Chicago, Rock Island & Gulf.....	9 mos. 721	2,265,368	161,596	2,426,964	356,728	323,854	130,878	869,919	159,937	76.6	1,862,859	378,695	314,672
Chic., St. Paul, Minn. & Omaha.....	Sept. 1,691	1,132,896	132,217	1,265,113	136,000	210,122	32,378	537,828	65,059	71.0	989,933	319,209	186,152
Chic., St. Paul, Minn. & Omaha.....	9 mos. 1,711	9,116,771	1,058,159	10,174,930	1,103,012	1,678,074	285,724	4,698,378	589,443	76.7	8,424,689	1,834,106	1,196,717
Cinn. Union Terminal.....	Sept. 45	.....	.....	6,793	5,296	5,010	.....	74,585	5,896	1,336.5	90,787	112,309	109,560
Cinn. Union Terminal.....	5 mos. 45	.....	.....	31,390	52,733	31,676	.....	47,534	36,733	1,907.2	567,854	732,202	732,391
Cincinnati R. R.....	Sept. 309	445,305	2,258	447,563	37,748	112,215	15,486	80,426	12,861	57.3	192,804	172,803	213,001
Cincinnati R. R.....	9 mos. 309	3,565,578	17,687	3,583,265	314,218	797,530	137,685	620,997	118,705	54.9	1,989,135	1,174,647	1,354,292
Colorado & Southern.....	Sept. 1,029	486,460	21,068	507,528	78,940	91,960	11,504	172,896	31,477	69.9	387,446	120,908	92,683
Colorado & Southern.....	9 mos. 1,029	3,092,671	195,315	3,287,986	463,447	826,313	103,474	1,437,801	285,469	84.8	3,117,088	517,507	—332,437
Ft. Worth & Denver City.....	Sept. 804	333,913	25,063	358,976	37,641	64,697	14,223	121,912	20,636	65.2	271,337	116,965	79,412
Ft. Worth & Denver City.....	9 mos. 804	3,069,820	246,024	3,315,844	262,852	590,652	135,962	1,157,778	285,556	63.7	2,443,754	1,123,236	913,298
Columbus & Greenville.....	Sept. 167	63,590	4,881	68,471	15,819	12,572	3,293	25,372	7,682	87.5	64,738	7,410	8,431
Columbus & Greenville.....	9 mos. 167	465,586	32,191	497,777	101,401	87,447	23,799	209,774	70,859	91.4	495,280	30,695	49,990
Conemaugh & Black Lick.....	Sept. 167	65,654	.....	65,654	7,675	12,178	485	37,354	3,200	60.1	60,892	40,053	4,495
Conemaugh & Black Lick.....	9 mos. 167	291,799	.....	291,799	50,866	83,371	3,097	216,733	25,276	73.6	379,343	133,150	144,751
Delaware & Hudson.....	Sept. 848	2,028,439	122,400	2,150,839	272,038	514,787	51,233	735,972	130,733	75.4	1,711,370	477,534	52,957
Delaware & Hudson.....	9 mos. 848	14,421,032	845,984	15,267,016	2,462,181	4,412,861	453,475	6,596,636	1,218,481	93.2	15,160,406	370,458	394,319
Delaware, Lackawanna & Western.....	Sept. 998	2,955,924	563,466	3,519,390	355,963	608,717	101,450	1,540,323	153,903	75.1	3,010,400	573,893	481,733
Delaware, Lackawanna & Western.....	9 mos. 998	23,168,975	4,831,470	28,000,445	2,921,116	6,408,547	973,104	13,763,567	1,356,303	79.5	23,679,107	2,885,229	2,614,567
Denver & Rio Grande Western.....	Sept. 2,478	1,701,384	103,733	1,805,117	188,686	277,720	41,496	515,122	70,200	57.8	1,097,922	665,268	651,960
Denver & Rio Grande Western.....	9 mos. 2,478	10,355,821	674,979	11,030,800	1,266,521	2,614,351	388,131	3,734,314	641,687	73.9	8,698,697	1,807,569	1,038,619
Denver & Salt Lake.....	Sept. 232	231,315	3,612	234,927	23,101	26,915	1,681	35,563	12,251	33.3	92,290	172,194	131,741
Denver & Salt Lake.....	9 mos. 232	1,016,895	38,480	1,055,375	165,576	199,326	13,618	219,629	102,262	57.1	664,015	377,304	443,861
Detroit & Mackinac.....	Sept. 242	42,797	3,313	46,110	8,127	7,174	932	19,658	4,513	75.0	40,396	8,871	8,833
Detroit & Mackinac.....	9 mos. 242	355,079	22,079	377,158	94,445	67,931	8,737	186,614	33,911	89.7	391,132	16,017	72,481
Detroit & Toledo Shore Line.....	Sept. 242	219,009	.....	219,009	19,404	22,070	7,389	55,792	6,097	50.3	110,735	88,364	15,060
Detroit & Toledo Shore Line.....	9 mos. 242	1,888,243	.....	1,888,243	166,308	180,344	59,797	483,429	61,190	50.0	950,996	758,451	398,883
Detroit Terminal.....	Sept. 19	.....	.....	58,379	7,252	8,561	.....	29,702	2,646	82.5	48,161	276	16,386
Detroit Terminal.....	9 mos. 19	.....	.....	510,812	45,746	68,370	.....	265,755	23,074	78.9	402,952	7,858	—106,988
Detroit, Toledo & Ironton.....	Sept. 472	369,599	.....	369,599	35,579	58,231	10,372	55,080	17,541	53.4	172,700	142,501	129,377
Detroit, Toledo & Ironton.....	9 mos. 472	2,868,107	2,799	2,870,906	284,724	481,128	84,177	798,376	156,451	60.0	1,789,923	907,370	388,585
Duluth, Missabe & Northern.....	Sept. 563	2,236,438	3,711	2,240,149	136,470	169,112	3,565	294,409	37,748	25.5	1,672,403	1,672,403	45,151
Duluth, Missabe & Northern.....	9 mos. 563	17,161,965	19,426	17,181,391	851,341	1,216,331	27,249	1,551,839	358,307	49.5	4,090,405	3,524,601	—1,908,883
Duluth, Winnipeg & Pacific.....	Sept. 178	79,789	1,984	81,773	15,384	13,960	2,275	33,520	6,183	83.5	71,249	9,605	—15,349
Duluth, Winnipeg & Pacific.....	9 mos. 178	557,237	17,424	574,661	164,414	153,996	20,744	295,697	40,042	112.3	674,289	—105,175	—34,281
Elgin, Joliet & Eastern.....	Sept. 446	864,737	.....	864,737	99,598	213,448	12,151	342,520	41,272	71.3	708,947	157,953	113,540
Elgin, Joliet & Eastern.....	9 mos. 446	6,787,210	8	6,787,218	723,604	1,609,662	103,856	2,699,193	384,375	73.1	5,520,309	1,080,804	—917,694
Erie.....	Sept. 2,046	5,095,066	435,045	5,530,111	544,655	1,246,311	132,858	1,990,841	2,464,652	69.6	4,162,116	1,478,084	920,116
Erie.....	9 mos. 2,046	39,616,136	3,892,116	43,508,252	4,373,014	10,039,109	1,175,143	16,853,952	2,098,345	73.2	34,609,964	9,604,993	5,766,917

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# PLAN FOR TOMORROW'S GREATER PROFIT



Planning for tomorrow's greater profit should govern the railroad's expenditures today. • Do not let the old locomotives waste the increasing gross. Buy new Super-Power and keep efficiency up to its present standard.



LIMA, OHIO

**LIMA LOCOMOTIVE WORKS • Incorporated • LIMA • OHIO**

# Revenues and Expenses of Railways

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from railway operation	Operating income	Net railway operating income, 1932
		Freight	Passenger	Total	Maintenance of— Way and structures	Equip- ment	Traffic	Trans- portation	General				
Chicago & Erie.....	269	\$746,052	\$43,795	\$848,118	\$86,003	\$95,683	\$22,371	\$194,269	\$34,074	50.8	\$430,686	\$381,672	\$31,115
.....	9 mos.	6,005,803	237,941	6,672,631	700,188	826,548	200,726	1,770,896	291,695	56.0	3,735,888	2,613,992	1,121,896
New Jersey & New York.....	45	18,689	54,561	77,296	9,542	21,677	1,278	43,364	3,442	102.6	79,303	77,007	2,296
.....	9 mos.	145,685	551,505	715,766	71,209	215,763	12,328	417,917	31,124	104.6	748,341	77,007	18,448
N. Y., Susquehanna & Western.....	131	243,395	25,895	282,897	35,014	51,901	4,177	112,218	11,324	75.9	214,634	38,077	35,935
.....	9 mos.	2,037,254	242,981	2,480,235	247,722	452,417	38,433	935,782	1,771,202	73.7	1,711,709	338,492	239,487
Florida East Coast.....	839	187,232	51,357	279,619	106,920	17,897	18,597	127,199	36,824	148.8	415,977	221,709	197,375
.....	9 mos.	3,458,156	1,151,881	5,218,251	937,567	1,148,337	173,310	1,456,108	347,306	78.6	4,102,474	436,802	83,893
Fort Smith & Western.....	249	57,985	1,207	63,264	13,427	10,304	4,410	17,797	3,969	79.1	50,054	11,010	6,075
.....	9 mos.	416,450	8,625	459,063	113,875	81,649	39,108	161,153	35,930	94.3	433,057	5,214	31,499
Galveston Wharf.....	11	.....	.....	100,950	26,348	3,352	3,373	19,694	3,999	59.9	60,444	22,351	7,434
.....	9 mos.	.....	.....	796,860	265,170	30,156	28,580	179,529	47,999	73.5	585,770	37,091	207,241
Georgia R. R.....	329	217,618	16,112	252,749	30,646	52,348	16,428	101,577	11,991	84.2	212,901	35,848	54,507
.....	9 mos.	1,994,918	116,662	2,277,622	253,929	412,861	145,235	963,659	110,458	82.9	1,888,097	340,635	429,498
Georgia & Florida.....	463	73,895	2,999	81,652	17,860	17,897	6,992	31,103	5,252	97.1	79,260	2,392	1,561
.....	9 mos.	697,665	12,814	751,550	149,743	131,662	71,349	285,358	54,592	92.3	693,930	12,379	5,062
Grand Trunk Western.....	1,008	1,106,261	83,927	1,283,385	214,718	306,228	35,088	548,710	80,797	92.7	1,190,082	20,081	95,000
.....	9 mos.	10,139,527	509,463	11,450,516	1,876,028	2,542,944	319,962	4,935,476	693,897	90.8	10,393,438	327,465	581,205
Canadian Natl. Lines in New Eng.....	172	93,880	11,699	114,723	28,832	16,527	2,979	49,621	8,274	93.0	106,232	4,539	43,906
.....	9 mos.	642,959	68,697	800,819	186,349	156,973	27,258	464,282	76,953	115.1	921,685	238,994	569,915
Great Northern.....	8,452	6,286,190	383,752	7,239,787	672,564	994,994	153,204	1,893,877	206,991	54.9	3,974,401	2,635,366	2,466,508
.....	9 mos.	38,228,365	2,815,107	45,082,229	3,986,108	8,235,614	1,400,091	14,789,459	1,751,896	67.7	30,531,814	9,303,539	7,888,378
Green Bay & Western.....	234	92,842	1,007	97,360	24,118	15,781	3,868	40,066	2,377	88.5	86,210	6,068	6,597
.....	9 mos.	789,634	8,390	828,622	178,931	120,037	39,593	348,957	22,913	85.7	710,163	68,767	53,184
Gulf & Ship Island.....	307	74,277	3,079	87,029	13,615	19,686	2,009	42,432	4,266	94.3	82,050	4,979	20,998
.....	9 mos.	663,810	50,055	802,838	110,395	142,673	17,850	362,368	36,498	83.6	671,111	12,310	12,310
Gulf, Mobile & Northern.....	963	418,723	19,191	438,748	42,693	47,079	36,376	127,331	21,018	59.84	374,497	153,551	107,980
.....	9 mos.	2,711,264	94,876	2,944,114	331,259	416,422	203,452	874,179	150,861	67.12	1,976,173	749,616	502,925
Illinois Central.....	5,014	5,272,722	934,552	6,699,533	720,075	1,409,497	140,926	2,254,692	314,458	72.8	4,875,917	1,406,310	1,294,041
.....	9 mos.	44,823,423	6,251,129	55,938,861	4,407,728	11,294,627	1,354,139	20,069,589	2,627,661	71.5	40,015,314	11,931,453	10,684,978
Yazoo & Mississippi Valley.....	1,658	854,761	34,464	907,687	108,434	158,098	20,460	400,791	46,748	68.1	743,494	231,748	198,669
.....	9 mos.	7,305,362	465,254	8,377,562	633,591	1,207,535	179,201	3,350,891	378,067	68.6	5,748,961	1,571,911	636,639
Illinois Central System.....	6,673	6,227,483	989,016	7,778,220	828,529	1,567,595	161,386	2,655,436	361,206	72.1	5,610,411	1,638,058	1,403,248
.....	9 mos.	52,228,785	6,716,383	64,329,423	5,041,659	12,502,162	1,513,360	23,420,480	3,005,728	71.1	45,761,475	13,503,364	11,321,596
Illinois Terminal.....	537	385,549	47,181	449,000	59,972	47,719	13,207	137,475	15,298	60.66	272,359	147,586	109,761
.....	9 mos.	2,998,013	427,823	3,546,952	428,961	432,315	127,526	1,248,968	148,974	67.21	2,384,003	937,464	658,817
Kansas City Southern.....	783	656,901	17,650	772,180	74,040	138,065	39,874	216,538	59,694	68.6	529,563	166,442	148,967
.....	9 mos.	5,460,058	127,568	6,376,688	630,269	1,127,851	355,215	1,941,950	537,504	73.1	4,599,659	1,090,647	905,003
Texarkana & Ft. Smith.....	98	82,058	1,413	93,146	11,732	10,806	6,200	25,662	8,396	67.8	63,166	22,299	4,653
.....	9 mos.	611,056	9,868	736,584	76,607	69,689	49,847	221,986	73,323	67.6	497,844	169,724	11,533
Kansas, Oklahoma & Gulf.....	326	169,018	277	171,784	23,898	10,387	6,757	34,161	7,541	47.7	81,915	72,339	54,593
.....	9 mos.	1,303,905	2,627	1,306,532	155,135	96,766	60,858	305,915	68,440	51.5	685,683	451,948	362,594
Lake Superior & Ishpeming.....	160	346,654	79	401,528	29,343	16,804	618	48,895	5,409	23.2	101,049	241,549	239,917
.....	9 mos.	1,187,653	667	1,360,954	181,861	121,113	4,663	231,827	49,489	43.3	588,931	578,359	568,967
Lake Terminal.....	12	.....	.....	70,545	5,965	6,641	.....	23,942	2,703	55.6	39,251	25,154	23,553
.....	9 mos.	.....	.....	505,177	39,027	45,725	.....	184,781	23,186	57.9	292,719	182,333	188,583
Lehigh & Hudson River.....	96	134,798	207	141,293	18,094	18,168	3,203	40,253	6,908	61.3	54,577	45,169	30,079
.....	9 mos.	1,024,705	2,457	1,088,838	107,938	173,001	29,280	356,701	57,084	66.5	723,994	261,490	150,305
Lehigh & New England.....	228	309,874	410	312,467	33,103	47,078	4,715	90,401	14,335	60.7	189,632	100,962	109,052
.....	9 mos.	2,358,611	3,837	2,262,742	269,032	466,574	43,702	793,060	140,018	73.7	1,712,557	517,379	539,167
Lehigh Valley.....	1,359	3,112,025	264,759	3,639,106	283,052	661,717	105,219	1,406,464	117,789	72.5	2,638,723	837,850	691,325
.....	9 mos.	24,226,034	1,782,280	28,211,973	2,343,780	5,826,992	953,680	11,893,051	1,094,014	78.9	22,256,186	3,953,237	2,938,844
Louisiana & Arkansas.....	608	344,947	9,840	380,045	51,613	57,622	21,776	86,789	14,946	61.2	232,617	120,170	109,949
.....	9 mos.	2,801,203	75,774	3,088,321	414,441	515,902	177,322	721,096	152,442	64.1	1,979,536	854,816	719,182
Louisiana, Arkansas & Texas.....	255	88,215	286	88,215	18,600	7,558	4,450	24,615	42,011	68.2	60,144	25,571	14,521
.....	9 mos.	557,739	2,620	615,637	152,920	70,745	32,597	215,545	42,011	83.4	513,711	80,663	14,559

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## FASTER FREIGHT SERVICE *Needs Modern Locomotives*

"There isn't a single slow freight train left on our railroad." This statement of an operating officer is typical of the far-reaching improvements in railroad service.

What has made this possible? For one thing, the adaptability of railroad officers to the new conditions which make speed the primary consideration in routing traffic.

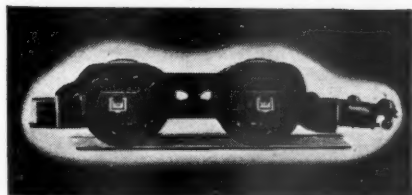
Again, facilities for fast freight transportation. Booster-equipped, super-power locomotives can haul a heavy load at passenger speeds and do so at a lower cost.

The Locomotive Booster is fundamental in securing maximum power per pound of weight.

It provides a reserve of power for maximum tractive effort in starting and on grades. Use it and the main locomotive can then be designed with a lower piston speed and thrust and still have ample power to haul the load at operating speeds. The lower piston thrust means lower all-round maintenance.

Here is a saving not always credited to The Locomotive Booster, yet this same maintenance economy is sufficient in itself to justify Booster application.

Franklin has information on this phase of Booster economies it would be glad to present to you.



# FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

MONTREAL

# Revenues and Expenses of Railways

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net operating income, 1932
		Freight	Passenger (inc. misc.)	Total	Maintenance of way and structures	Equipment	Traffic	Portation	General					
Louisville & Nashville.....	Sept. 5,116	\$5,317,719	\$419,813	\$6,154,921	\$638,187	\$1,388,024	\$159,372	\$2,010,447	\$232,094	72.9	\$1,669,197	\$1,331,245	\$1,439,477	\$1,318,178
9 mos. 5,144	42,055,430	3,293,324	49,008,052	5,373,567	10,503,648	1,482,737	17,111,789	2,330,971	37,082,538	72.7	11,925,514	8,595,485	8,882,938	3,372,938
Maine Central.....	Sept. 1,046	972,817	160,348	1,133,165	160,348	1,133,165	94,109	2,835,206	336,138	70.0	291,402	242,622	202,872	142,952
9 mos. 1,100	6,309,184	697,981	7,830,289	1,113,752	1,216,825	1,216,825	94,109	2,835,206	336,138	71.4	2,235,292	1,810,416	1,473,715	1,095,816
Midland Valley.....	Sept. 363	131,193	617	138,333	22,244	7,628	2,139	31,379	5,802	49.0	70,544	60,202	50,261	52,427
9 mos. 363	969,243	3,925	1,010,918	146,904	81,291	20,397	251,959	35,131	58,641	54.9	453,465	369,377	307,334	278,651
Minneapolis & St. Louis.....	Sept. 1,827	6,314,433	14,129	6,328,562	6,314,433	14,129	20,455	301,738	35,131	84.0	108,904	80,506	47,665	95,601
9 mos. 1,627	5,211,428	127,180	5,687,337	701,937	1,155,249	1,155,249	224,058	2,619,183	306,129	88.0	684,402	363,645	157,390	460,536
Minn., St. Paul & S. M. R. Co.....	Sept. 4,315	2,149,828	126,870	2,450,779	268,564	365,521	59,032	746,187	129,378	64.3	875,962	705,174	558,359	357,859
9 mos. 4,324	14,456,199	828,353	16,337,669	2,450,779	3,101,793	3,101,793	548,334	6,494,191	994,413	80.7	3,214,047	1,815,605	692,866	1,615,329
Duluth, South Shore & Atlantic.....	Sept. 563	162,776	10,426	173,202	32,187	34,251	4,147	64,337	5,627	72.6	52,948	37,065	32,427	36,250
9 mos. 562	1,230,735	85,705	1,456,686	260,711	273,243	273,243	47,858	587,218	52,101	83.9	234,095	65,227	32,501	416,488
Spokane International.....	Sept. 163	32,787	1,106	38,559	6,034	4,224	1,869	18,742	4,139	90.8	35,006	1,049	1,654	—298
9 mos. 163	284,237	13,700	332,641	101,249	41,352	17,332	17,332	170,064	37,382	110.6	—35,246	—76,575	—95,880	—110,994
Mississippi Central.....	Sept. 150	54,837	1,492	56,329	8,532	11,051	6,249	16,054	5,007	80.2	11,584	8,754	6,173	13,592
9 mos. 150	426,789	11,901	455,249	78,752	96,705	96,705	54,566	139,218	45,767	91.2	40,238	14,510	16,920	60,463
Missouri & North Arkansas.....	Sept. 364	86,715	1,241	93,711	11,918	8,680	3,377	26,150	3,704	57.4	39,893	37,844	27,906	4,066
9 mos. 364	578,790	9,292	643,503	126,748	84,525	42,314	42,314	223,810	42,671	59.0	123,733	102,302	26,065	—91,335
Missouri-Illinois.....	Sept. 202	82,445	3,322	84,496	15,057	8,876	2,668	24,130	5,338	66.3	28,467	21,506	14,811	4,536
9 mos. 202	611,025	3,007	628,909	123,104	96,471	96,471	22,145	208,035	48,023	79.1	131,245	72,434	9,846	16,785
Missouri-Kansas-Texas Lines.....	Sept. 3,293	2,101,855	186,727	2,516,431	269,206	331,086	144,918	762,716	142,731	66.3	848,463	778,722	608,776	465,932
9 mos. 3,293	15,147,532	1,367,683	18,566,297	2,399,817	2,924,288	2,924,288	1,028,884	6,410,803	1,252,654	77.0	4,222,970	2,621,083	1,134,665	2,018,692
Missouri Pacific.....	Sept. 7,412	5,405,906	367,793	6,020,526	6,187,855	1,317,199	207,378	2,105,476	2,247,926	75.5	1,541,934	1,276,866	841,527	1,402,589
9 mos. 7,412	43,364,048	2,800,528	50,624,061	6,187,855	10,190,787	10,190,787	1,875,732	18,033,095	2,255,670	76.3	11,999,346	8,856,308	5,581,129	5,769,760
Gulf Coast Lines.....	Sept. 1,800	516,801	34,161	595,078	124,114	130,016	39,210	206,394	44,444	91.7	50,761	7,915	52,319	51,683
9 mos. 1,800	5,579,572	25,148	6,208,956	1,118,356	1,118,356	1,118,356	348,399	2,001,606	398,971	77.37	1,405,271	944,254	196,180	831,887
International Great Northern.....	Sept. 1,159	828,044	63,076	986,751	137,842	184,289	26,018	323,304	41,540	73.69	259,576	220,663	118,028	176,369
9 mos. 1,159	8,884,509	464,271	9,570,338	1,201,846	1,613,157	1,613,157	231,317	3,253,010	391,068	70.64	2,810,129	2,471,635	1,330,144	250,854
San Antonio, Uvalde & Gulf.....	Sept. 316	62,176	3,227	70,280	19,460	7,673	4,006	17,097	4,601	75.2	17,443	13,210	—2,491	—26,366
9 mos. 316	493,772	25,148	559,993	97,161	87,161	153,086	35,850	139,134	38,724	80.9	107,014	72,189	—107,344	—65,949
Mobile & Ohio.....	Sept. 1,201	655,298	28,380	720,347	97,661	180,631	40,564	250,578	32,577	83.6	118,178	80,315	10,249	8,965
9 mos. 1,220	5,522,061	183,878	6,049,330	753,783	1,321,751	1,321,751	344,677	2,224,183	326,899	82.2	1,076,931	706,291	147,112	—521,925
Monongahela.....	Sept. 177	350,916	645	353,512	28,820	20,745	429	58,836	3,232	31.7	241,450	215,174	139,638	116,616
9 mos. 177	2,632,681	5,525	2,653,141	203,172	190,386	5,641	501,316	58,230	58,230	36.1	1,694,378	1,541,085	909,138	810,202
Monongahela Connecting.....	Sept. 6	.....	.....	79,216	12,114	16,972	52	38,678	2,760	89.1	8,640	3,490	2,173	—18,629
9 mos. 6	.....	.....	589,896	97,437	142,182	142,182	422	296,533	24,091	95.0	29,231	—13,412	—15,648	—152,679
Montour.....	Sept. 57	87,535	.....	87,708	15,072	50,564	955	20,948	5,171	105.7	—5,002	—11,600	9,464	86,581
9 mos. 57	1,251,223	.....	1,260,682	110,063	368,997	368,997	10,111	248,936	53,494	62.9	467,083	436,578	607,682	439,309
Nashville, Chattanooga & St. Louis.....	Sept. 1,203	1,857,317	5,402,800	26,615,050	2,719,212	5,492,034	506,577	8,792,122	999,041	70.9	7,733,671	5,807,221	42,033	126,717
9 mos. 1,203	14,856,850	39,089,564	211,377,943	18,487,205	42,873,925	42,873,925	4,352,002	75,404,876	8,849,904	85.4	1,366,969	1,042,760	879,511	381,935
Nevada Northern.....	Sept. 165	24,660	1,273	30,013	8,858	3,181	882	6,810	1,865	71.9	8,417	4,150	7,147	4,330
9 mos. 165	157,515	9,471	200,798	76,891	34,842	34,842	6,478	62,750	27,904	104.2	—8,067	—71,341	—33,908	—19,864
Newburgh & South Shore.....	Sept. 6	.....	.....	29,283	3,347	12,739	.....	14,025	4,030	116.6	—4,858	—14,878	—9,929	—11,718
9 mos. 6	.....	.....	341,818	26,327	145,413	145,413	.....	173,275	39,306	112.4	—42,503	—121,496	—86,935	—144,911
New Orleans Terminal.....	Sept. 20	.....	.....	104,667	9,515	5,633	.....	28,211	970	42.3	60,338	48,466	48,313	66,566
9 mos. 20	.....	.....	972,183	75,912	51,620	51,620	.....	239,179	9,212	38.7	596,260	491,830	411,404	343,040
New York Central.....	Sept. 11,429	17,857,317	5,402,800	26,615,050	2,719,212	5,492,034	506,577	8,792,122	999,041	70.9	7,733,671	5,807,221	42,033	126,717
9 mos. 11,429	145,856,850	39,089,564	211,377,943	18,487,205	42,873,925	42,873,925	4,352,002	75,404,876	8,849,904	85.4	1,366,969	1,042,760	879,511	381,935
Indiana Harbor Belt.....	Sept. 120	.....	.....	705,768	38,000	82,000	3,504	280,856	17,709	61.1	274,790	227,905	168,451	196,488
9 mos. 120	.....	.....	5,686,149	303,000	567,000	567,000	28,591	2,220,704	15,527	58.9	2,339,798	1,897,737	1,405,846	1,045,902
Pittsburgh & Lake Erie.....	Sept. 231	1,366,549	46,605	1,468,946	124,745	254,709	3,515	436,121	59,557	79.7	297,857	216,277	335,435	149,023
9 mos. 232	10,208,519	386,791	10,960,320	843,418	3,618,980	3,618,980	214,822	3,542,600	522,068	79.9	2,207,281	1,362,479	2,340,076	1,047,102
New York, Chicago & St. Louis.....	Sept. 1,690	2,563,099	119,355	2,789,938	312,780	396,792	97,630	925,221	112,926	66.4	937,821	828,725	551,360	301,987
9 mos. 1,690	21,323,726	709,237	22,901,573	2,180,376	3,444,209	3,444,209	856,942	7,749,900	997,957	66.6	7,648,365	6,293,113	4,016,701	1,139,910
N. Y., New Haven & Hartford.....	Sept. 2,067	3,500,285	1,811,979	6,041,313	776,163	980,393	68,135	2,134,638	215,563	70.8	1,765,303	1,390,227	926,157	1,024,532
9 mos. 2,068	28,891,760	15,115,130	49,915,704	5,825,066	8,252,137	8,252,137	655,219	18,630,660	2,035,566	72.9	13,525,206	10,118,110	5,728,438	8,371,236

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# What Makes Long Arch Life?



Good Arch Brick is, of course, a fundamental to long Locomotive Arch life.

But how this brick is used is equally important. Here enters experience in locomotive combustion.

American Arch Company service gets the Arch off to a good start by designing it properly and fitting it to harmonize with the other elements of the locomotive.

Then, after the locomotive is in operation,



American Arch Company places at the railroad's disposal a service that will insure getting everything possible out of the Arch Brick.

Only American Arch Company has the experienced organization to make this possible.

**HARBISON-WALKER  
REFRACTORIES CO.**  
*Refractory Specialists*



**AMERICAN ARCH CO.**  
INCORPORATED  
*Locomotive Combustion  
Specialists* » » »

# Revenues and Expenses of Railways

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from operation		Net operating income, 1932
		Freight	Passenger	Total	Maintenance of way and structures	Equip-ment	Traffic	Trans-portion	General		Operating income	Net railway operating income	
New York Connecting.....	20	\$206,324	.....	\$219,946	\$20,152	\$7,845	.....	\$24,710	\$832	24.3	\$135,457	\$98,160	\$118,069
New York, Ontario & Western.....	568	6,125,321	454,200	7,200,925	848,062	1,259,167	104,432	2,752,141	212,665	71.0	1,759,262	1,401,389	1,415,920
Norfolk & Western.....	2,184	6,726,527	152,431	7,074,403	556,373	1,274,688	113,960	1,349,886	208,643	49.6	3,564,523	3,152,790	2,127,107
Norfolk Southern.....	932	3,203,422	89,591	3,293,013	611,159	525,726	170,427	1,261,640	205,755	83.5	2,292,532	17,647,611	11,464,611
Norfolk Southern.....	932	3,043,422	89,591	3,293,013	611,159	525,726	170,427	1,261,640	205,755	83.5	2,292,532	17,647,611	11,464,611
Northern Pacific.....	6,747	4,413,321	312,472	5,100,885	404,122	958,998	133,917	1,505,823	242,316	64.7	1,798,858	1,535,350	1,196,890
Northwestern Pacific.....	382	2,940,993	2,395,422	5,336,415	1,173,850	8,335,394	1,320,978	12,884,904	2,238,995	84.4	5,435,941	3,007,991	2,441,616
Oklahoma City-Atoka.....	132	22,600	201	24,403	3,510	1,451	487	9,470	1,473	67.2	8,012	4,627	3,319
Pennsylvania Railroad.....	10,549	22,830,561	5,016,053	30,912,782	2,532,025	5,870,460	508,767	9,870,175	1,240,592	65.9	10,551,021	8,005,751	5,325,682
Long Island.....	399	496,770	1,533,896	2,134,308	155,565	292,090	9,482	822,745	52,910	62.4	801,466	539,972	580,266
Peoria & Pekin Union.....	18	86,066	.....	86,066	1,278,761	2,493,476	114,411	7,488,444	479,402	64.5	6,527,085	3,082,279	3,975,650
Pere Marquette.....	2,288	1,692,842	73,967	1,881,434	263,955	440,718	52,976	6,002,644	87,277	82.4	331,485	219,662	109,392
Pittsburgh & Shawmut.....	102	58,126	760	59,436	8,537	17,432	1,361	17,195	32,433	81.2	11,172	13,463	16,976
Pittsburgh & West Virginia.....	138	199,198	.....	199,198	21,404	55,342	11,150	41,178	13,444	71.9	58,438	53,162	93,214
Pennsylvania Reading Seashore Lines.....	146	32,458,454	2,037,463	36,606,871	2,181,479	6,436,916	620,468	13,293,616	1,651,319	66.4	12,283,660	9,905,521	7,291,573
Richmond, Fredericksburg & Potomac.....	117	188,376	93,297	369,111	43,522	92,327	7,604	159,587	28,443	91.1	32,878	16,519	2,394
Rutland.....	413	2,696,540	989,261	4,575,757	446,787	853,232	71,914	1,777,682	287,962	76.6	1,069,951	726,704	374,511
St. Louis-San Francisco.....	5,266	2,946,294	197,230	3,413,593	580,509	804,440	90,451	1,102,833	141,308	79.7	694,064	504,783	591,580
Ft. Worth & Rio Grande.....	233	29,155	1,173	35,956	16,083	10,442	1,930	18,993	2,894	88.9	5,514,613	3,055,133	2,663,847
St. Louis, San Francisco & Texas.....	262	102,421	614	106,635	25,293	19,629	5,136	35,214	9,287	88.7	12,091	8,156	20,926
St. Louis Southwestern Lines.....	1,884	1,041,095	15,118	1,104,176	183,302	156,078	44,101	303,500	68,139	100.5	3,383	39,780	348,709
San Diego & Arizona Eastern.....	155	22,545	3,373	28,960	7,908	7,137	1,449	14,037	4,280	122.1	6,410	8,108	16,321
Seaboard Air Line.....	4,315	2,882,291	40,281	3,453,334	81,360	76,640	16,059	144,013	39,657	105.1	17,483	42,108	31,315
Southern Ry.....	4,371	19,565,782	1,725,947	23,567,383	3,577,844	4,656,440	1,153,247	8,531,437	1,154,578	81.8	4,287,017	2,503,266	1,815,048
Alabama Great Southern.....	6,653	5,290,638	707,604	6,600,179	758,743	1,101,656	131,636	2,248,908	234,126	68.3	2,089,714	1,607,566	1,472,761
Cinn., New Orleans & Texas Pacific.....	336	948,099	70,084	1,076,883	107,325	190,067	23,522	253,558	35,373	57.0	463,042	359,538	320,930
Georgia Southern & Florida.....	397	922,078	17,924	1,265,547	27,102	34,391	1,469	61,847	328,053	101.9	3,665,571	2,730,542	1,124,865
.....	397	922,078	17,924	1,265,547	27,102	34,391	1,469	61,847	328,053	101.9	3,665,571	2,730,542	1,124,865

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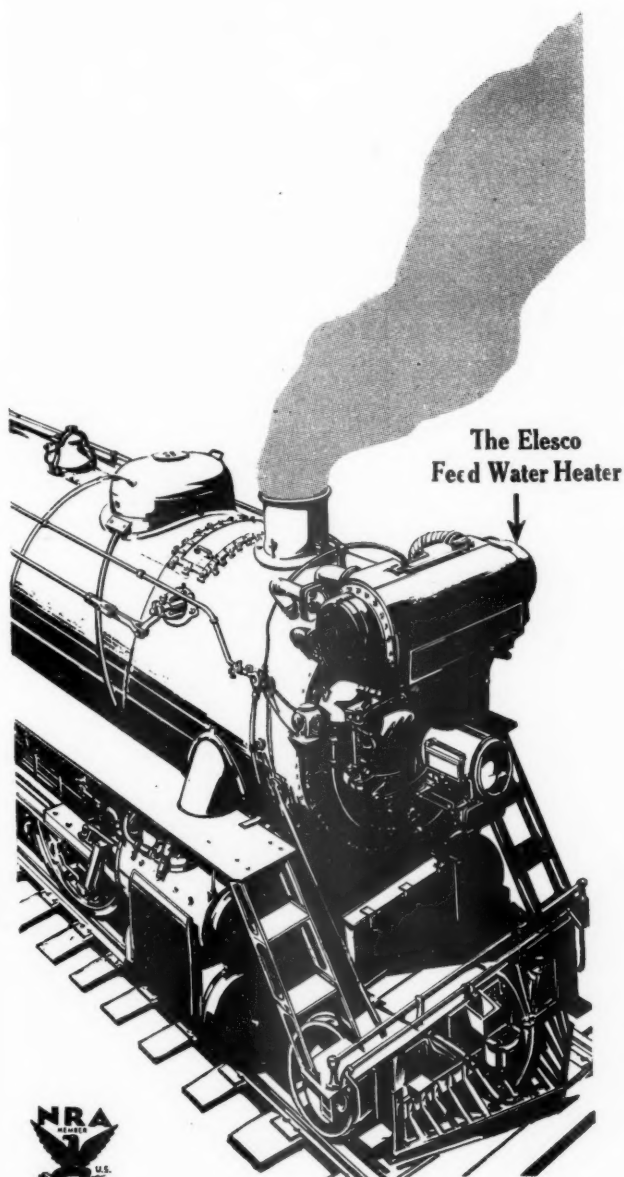


# More Tons with Less Fuel . . .

are handled by new power as compared to the average locomotive now in service. One of the important factors entering into improved locomotive performance is the Elesco feed water heater—the approved equipment for preheating feed water with exhaust steam.

The Elesco feed water heater reclaims 15 per cent of the *waste* exhaust steam, transferring the reclaimed heat back to the boiler in the feed water and returning the condensate to the tender. Increased sustained boiler capacity, increased tender capacity, a better fuel rate are among the improvements effected by preheating the boiler feed water in this way with exhaust steam.

If you want more economical and efficient power—power that hauls more tons with less fuel—apply the Elesco feed water heater.



## THE SUPERHEATER COMPANY

Representatives of AMERICAN THROTTLE CO., INC.

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Peoples Gas Building  
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Superheaters . Feed Water Heaters . Exhaust Steam Injectors . Superheated Steam Pyrometers . American Throttles

# Revenues and Expenses of Railways

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1933—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues				Operating expenses				Operating ratio	Net from operation		Net operating income, 1932
		Freight	Passenger	Total	Way and structures	Maintenance of equipment	Traffic	Transportation	General		Total	Operating income	
New Orleans & Northeastern.....	204	\$163,867	\$20,588	\$184,455	\$25,472	\$19,930	\$4,779	\$60,460	\$10,217	62.0	\$122,208	\$48,470	\$16,756
9 mos. ....	204	1,182,202	136,865	1,319,067	230,140	318,286	47,721	528,798	79,094	85.4	1,215,400	207,671	336,608
Northern Alabama .....	99	43,860	1,377	45,237	10,301	1,493	833	14,019	1,630	60.3	28,278	18,599	—
9 mos. ....	99	364,214	10,693	374,907	79,007	11,702	9,360	124,896	15,288	61.8	240,253	107,580	—30,530
Southern Pacific .....	9,011	7,102,736	1,363,726	8,466,462	789,845	1,580,580	238,905	3,243,157	512,133	69.9	2,817,329	1,984,718	1,528,996
9 mos. ....	9,011	52,449,349	11,352,236	63,801,585	6,777,047	13,078,146	2,329,641	26,136,654	4,767,697	77.1	16,165,714	7,627,008	5,421,934
So. Pac. Steamship Lines.....	.....	359,184	15,644	374,828	386,069	12,904	14,135	362,401	19,364	99.0	3,668	3,065	2,499
9 mos. ....	.....	2,934,349	115,502	3,049,851	116,737	895,002	143,899	2,175,959	181,511	109.9	3,513,108	327,333	—749,565
Texas & New Orleans.....	4,487	2,083,095	191,275	2,274,370	352,130	520,282	103,544	834,964	200,841	78.4	2,023,471	313,869	—20,975
9 mos. ....	4,487	16,987,017	1,732,214	18,719,231	3,019,939	4,362,805	999,547	7,557,969	1,882,856	84.4	17,166,262	2,552,969	1,486,443
Spokane, Portland & Seattle.....	552	373,240	45,295	418,535	36,986	40,575	5,867	130,100	15,790	50.7	235,291	165,311	14,652
9 mos. ....	552	2,765,013	305,571	3,070,584	307,791	396,786	54,070	1,128,404	151,261	60.1	1,361,007	685,423	288,814
Tennessee Central .....	287	168,293	4,818	173,111	30,472	25,205	5,442	55,197	9,096	68.1	125,159	55,486	39,196
9 mos. ....	287	1,331,208	34,321	1,365,529	243,153	210,558	44,288	481,640	87,493	73.7	1,066,528	353,458	109,958
Term. R. R. Assn. of St. Louis.....	55	.....	.....	.....	39,922	46,521	3,117	211,933	13,288	57.5	234,345	138,688	132,843
9 mos. ....	55	.....	.....	.....	338,769	281,166	28,239	1,923,803	137,574	59.0	1,896,322	1,107,073	920,035
Texas & Pacific.....	1,950	1,338,666	143,657	1,482,323	170,368	308,181	61,544	486,683	101,102	67.9	1,142,403	437,474	372,394
9 mos. ....	1,950	11,993,809	1,244,328	13,238,137	1,513,912	2,663,463	550,273	4,604,964	932,559	69.8	10,395,956	3,581,946	2,306,595
Texas Mexican .....	162	44,190	773	44,963	10,162	11,682	2,859	21,767	6,358	99.5	52,882	282	—7,193
9 mos. ....	162	428,489	5,528	434,017	113,255	113,255	26,097	218,371	60,062	104.2	202,287	—61,621	—37,207
Toledo, Peoria & Western.....	239	145,611	15	145,626	40,535	11,632	14,774	37,292	11,062	77.9	115,295	28,738	7,104
9 mos. ....	239	1,224,245	209	1,224,454	306,943	95,165	125,345	326,372	72,845	74.6	926,670	273,634	167,886
Toledo Terminal .....	28	.....	.....	.....	2,897	6,882	391	20,179	4,421	62.2	21,111	13,095	8,642
9 mos. ....	28	.....	.....	.....	36,385	68,570	3,848	232,372	36,382	68.0	377,556	109,792	236,268
Union R. R. of Penna.....	45	.....	.....	.....	76,186	108,679	134	150,061	13,986	63.1	349,046	184,709	—82,254
9 mos. ....	45	.....	.....	.....	386,522	832,842	1,129	944,991	124,337	86.9	2,289,811	345,457	—616,454
Union Pacific .....	3,767	5,109,090	639,973	5,749,063	1,179,472	1,797,336	98,384	1,683,275	2,400,505	60.0	2,438,570	1,892,612	1,505,395
9 mos. ....	3,767	36,599,701	4,150,196	40,749,897	3,513,837	8,986,102	941,782	13,213,193	2,400,941	66.0	29,579,711	10,997,142	9,290,425
Oregon Short Line.....	2,504	1,829,683	143,293	1,972,976	185,448	256,103	25,571	629,921	84,007	57.5	1,207,944	736,779	618,590
9 mos. ....	2,504	12,157,318	979,239	13,136,557	1,558,892	1,969,679	270,997	4,693,741	805,729	67.1	10,436,816	2,488,427	1,783,852
Oregon-Wash. R. R. & Nav. Co.....	2,295	1,108,986	1,371,347	2,480,333	1,170,784	1,74,670	40,369	485,483	67,890	69.0	2,428,084	276,873	149,369
9 mos. ....	2,295	7,851,196	779,019	8,630,215	1,435,356	1,318,126	415,998	3,956,445	750,950	81.0	1,859,219	609,462	—309,983
Los Angeles & Salt Lake.....	1,248	1,062,126	130,709	1,192,835	144,979	158,469	37,060	370,739	50,404	61.1	791,301	367,638	247,262
9 mos. ....	1,248	8,126,815	1,095,570	9,222,385	1,258,751	1,502,101	373,331	3,096,405	514,738	69.4	6,969,523	1,965,982	1,216,514
St. Joseph & Grand Island.....	258	254,104	5,807	260,011	19,514	22,784	2,091	80,702	10,662	50.8	131,784	11,364	45,604
9 mos. ....	258	1,772,160	25,823	1,797,983	209,966	238,336	19,670	568,978	105,722	61.3	1,444,360	599,286	387,677
Utah .....	111	84,427	.....	84,427	9,079	25,009	453	17,651	4,681	67.2	27,774	17,796	8,765
9 mos. ....	111	688,837	.....	688,837	90,140	189,409	4,357	156,570	43,998	69.9	208,047	134,993	36,326
Virginian .....	619	1,189,703	5,569	1,195,272	96,649	205,417	16,097	203,198	25,072	43.9	697,783	537,098	608,791
9 mos. ....	612	9,599,178	46,552	9,645,730	912,017	1,774,295	143,489	1,809,457	255,536	48.7	5,146,738	3,875,955	4,474,607
Wabash .....	2,465	2,832,043	197,694	3,029,737	445,789	579,791	125,195	1,108,525	126,755	74.3	830,557	714,935	404,739
9 mos. ....	2,465	23,747,588	1,502,351	25,249,939	3,629,651	4,548,158	1,167,390	10,490,513	1,109,422	77.5	21,015,437	4,529,931	—585,901
Ann Arbor .....	293	267,704	2,374	270,078	28,362	52,313	9,938	110,185	9,379	74.2	72,983	60,736	3,100
9 mos. ....	293	2,104,489	19,371	2,123,860	243,181	403,933	95,123	932,211	85,138	79.7	1,760,717	320,134	—30,843
Western Maryland .....	891	1,155,029	7,354	1,162,383	172,939	222,867	31,670	274,636	35,963	62.3	449,498	379,498	429,115
9 mos. ....	891	8,743,007	70,667	8,813,674	1,215,333	1,656,423	280,894	2,271,273	323,158	63.6	3,082,584	2,672,584	2,575,512
Western Pacific .....	1,212	1,082,982	38,822	1,121,804	158,513	161,200	11,994	351,508	33,339	67.1	392,207	330,350	540,347
9 mos. ....	1,211	7,050,153	234,997	7,285,150	1,238,732	1,452,593	494,278	2,843,958	316,124	85.0	1,149,880	471,493	119,353
Wheeling & Lake Erie.....	511	1,075,317	1,823	1,077,140	131,944	289,746	26,721	307,553	24,375	67.1	389,506	273,545	183,827
9 mos. ....	511	7,603,196	13,696	7,616,892	810,752	2,114,040	235,482	2,224,613	224,450	69.1	2,501,938	1,644,856	1,485,324
Wichita Falls & Southern.....	203	43,008	57	43,065	8,233	6,686	1,619	12,000	3,118	70.02	13,555	10,260	10,041
9 mos. ....	203	385,537	287	386,824	401,878	61,678	14,979	111,227	32,049	74.23	103,577	77,806	49,475